TRANSCRIPT OF RECORD

Supreme Court of the United States

OCTOBER TERM, 1957

No. 85

CITIES SERVICE GAS COMPANY, A CORPORATION,
APPELLANT,

vs.

STATE CORPORATION COMMISSION
OF KANSAS, ET AL.

APPEAL FROM THE SUPREME COURT OF THE STATE OF KANSAS

Filed February 25, 1957
Probable Jurisdiction noted May 27, 1957

SUPREME COURT OF THE UNITED STATES

OCTOBER TERM, 1957

No. 85

CITIES SERVICE GAS COMPANY, A CORPORATION,
APPELLANT,

vs.

STATE CORPORATION COMMISSION
OF KANSAS, ET AL.

APPEAL FROM THE SUPREME COURT OF THE STATE OF KANSAS

INDEX

	Original	Print
Proceedings in Supreme Court of the State of Kansas		
Abstract of record from the District Court of Finney County, Kansas	2	1
Statement	2	1
Questions for review	3	1
Royalty owners' petition	4	2
Protest of Cities Service Gas Company	4	3
Commission's gas price-fixing order	5	4
Testimony of witnesses	6	4
Ross M. Stuntz—		
direct	6	5
cross	11	8
George V. Rowland—		
direct	14	10
cross	17	12
J. L. Willard—		
direct	17	13
L. C. Benne—		
direct	20	14
cross	21	15
redirect	21	15
cross	22	16
redirect	24	18

RECORD PRESS, PRINTERS, NEW YORK, N. Y., SEPTEMBER 27, 1957

	Original	Print
Abstract of record from the District Court of Finney County, Kansas—Continued		
Testimony of witnesses—Continued		
J. G. Shattuck—		
direct	25	19
redirect	26	20
Thomas D. Bailey—		
direct	27	20
D. A. Howard—		
direct	28	21
Memorandum opinion of commission	30	23
Petition of Cities Service Gas Company for rehearing	30	23
Order of Commission denying petition for rehearing	31	24
Petition of Cities Service Gas Company for a judicial review of Commission's minimum gas price-fixing order	31	24
Journal entry of judgment affirming order of Commission	34	27
Appellant Cities Service Gas Company's motion for new trial	35	27
Notice of appeal by Cities Service Gas Company to the Supreme Court of Kansas	35	28
Specification of errors	36	28
Certificate of counsel	37	29
Abstract appendix of record before the State Corporation Commission of the State of Kansas	40	30
Petition of Southwest Kansas Royalty Owners Association	41	31
Protest of Cities Service Gas Company	46	35
Gas price fixing order of Corporation Commission	51	39
Memorandum opinion by the Commission	59	45
Petition of Cities Service Gas Company for rehearing	67	51
Order denying petition for rehearing	87	67
Abstract appendix of record from the District Court of Finney County, Kansas	88	68
Petition of Cities Service Gas Company for judicial review of Commission price order	88	68
Journal entry of judgment affirming price order and denying motion for new trial	97	75
Motion for new trial	100	77
Notice of appeal to the Supreme Court of Kansas	101	78
Protestant's Exhibits:		
No. 34—Map showing Pipe Line System of Cities Service Gas Company—1952	102	79
No. 35—Tabulation showing Cities Service Gas Company—Total Gas Purchased in 1951, Kansas-Hugoton Field 1951 (16.4# Base)	103	80
No. 36—Tabulation of Cities Service Gas Company showing the number of wells that were connected either directly or indirectly at October 1, 1952, etc.	104	81

	Original	Print
Abstract appendix of record from the District Court of Finney County, Kansas—Continued		
No. 37—Tabulation of Cities Service Gas Company showing Total Gas Handled—1949 thru 1951 Actual; Estimated Last 3 months of 1952 and all of 1953, 14.9# MCF Percentage Comparisons	105	82
No. 38—Tabulation showing Total Gas Run During 1951—16.4# Pressure Base—Data from Kansas Commission Reports—Kansas-Hugoton Field	106	83
No. 39—Cities Service Gas Company Sales of Natural Gas from the transmission system during the fiscal year 1951, for light, fuel, repressuring, or for chemical and other processes by which such gas is converted into a liquid or solid substance	107	84
No. 46—Cities Service Gas Company tabular form showing Increase in purchase gas expense to Cities Service Gas Company based on estimated purchases of natural gas in the Kansas-Hugoton field under present contracts for the fiscal year 1953	109	86
Proof of service of appellant's abstract and abstract appendix	111	88
Opinion of Supreme Court of Kansas, Parker, J.	113	90
Memorandum opinion by the Commission (Copy) (Omitted in printing)	123	102
Appellant's motion for rehearing and proof of service	129	103
Order denying motion for rehearing	137	109
Notice of appeal and proof of service	138	110
Consolidated counter abstract of record, Volume I—(Excerpts)—see separate index	141	113
Consolidated counter abstract of record, Volume II—(Excerpts)—see separate index	408	301
Cross-designation of additional portions of the record to be printed and proof of service	642	417
Clerk's certificate (omitted in printing)	645	419
Order noting probable jurisdiction	646	419

[fol. 2] No. 40402

IN THE SUPREME COURT OF THE STATE OF KANSAS

CITIES SERVICE GAS COMPANY, a Corporation,
Appellant, Plaintiff Below,

v.

STATE CORPORATION COMMISSION OF KANSAS, HARRY SNYDER, JR., Chairman, RICHARD C. BYRD and JOHN I. YOUNG, as Members of Said Commission, and Their Respective Successors in Office, Appellees, Defendants Below.

APPEAL FROM THE DISTRICT COURT OF FINNEY COUNTY, KANSAS,
HONORABLE ROLAND H. TATE, JUDGE.

Abstract of Record

STATEMENT

The Appeal to this Court in this case is authorized by G. S. 1949 55-606, and its purpose is to review a judgment of the District Court of Finney County entered May 14, 1956, affirming an order of the State Corporation Commission fixing a minimum price for natural gas produced, sold and taken from the Kansas portion of the Hugoton Gas Field, as applied to the operations of Appellant therein, and overruling of Appellant's motion for a new trial.

[fol. 3] This abstract reproduces only such portions of the record below as are necessary for this Court to read in order to arrive at a full understanding of and decide the specific questions presented for review herein, namely:

QUESTIONS FOR REVIEW

1. The Corporation Commission was without jurisdiction or authority to promulgate and issue its said minimum gas price-fixing order as applied to sales of natural gas made by producers to Appellant in the Kansas Hugo-

ton Field, after its production and gathering had ended, for transportation and resale in interstate commerce, for the reason that such sales are subject to the exclusive jurisdiction of the Federal Power Commission under the Natural Gas Act (15 U.S.C.A. 717).

2. The Corporation Commission was without jurisdiction or authority to promulgate and issue its said minimum gas price-fixing order as applied to sales of natural gas at the wellhead in said Kansas Hugoton Field, by producers to Appellant, for transportation and resale in interstate commerce for the reason that such sales are subject to the exclusive jurisdiction of the Federal Power Commission under the Natural Gas Act (15 U.S.C.A. 717).

For the Court's convenience, an Appendix to this abstract designated "Abstract Appendix" (Abs. App.) has been separately prepared, and is made a part hereof by reference, which sets forth in full the respective pleadings, instruments and exhibits necessarily involved in this appeal, so the Court may, if it so desires, examine same in detail.

[fol. 4] ROYALTY OWNERS' PETITION

The proceedings before the Corporation Commission leading to the issuance of its minimum gas price-fixing order, under attack in this case, were initiated on petition of the Southwest Kansas Royalty Owners Association, a corporation, and other individuals, filed with Commission August 18, 1952, requesting it, among other things not material, to fix a minimum price and a measurement base for natural gas produced, sold and taken from the Kansas portion of the Hugoton Gas Field. (For details of Petition, see Abs. App., pp. 2-7). Appellant Cities Service Gas Company duly intervened in said proceedings and became a party thereto by permission of Commission. On October 17, 1952, it filed with said Commission its protest against the granting of the relief requested by said petition.

PROTEST OF CITIES SERVICE GAS COMPANY

The material portions thereof necessary for the Court to consider on this appeal read:

"1. Protestant is a Delaware corporation duly authorized to transact business in the State of Kansas as a foreign corporation with its principal office and place of business First National Building, Oklahoma City, Oklahoma, and an operating office at Wichita, Kansas.

"2. Protestant is a natural gas company as defined in the Natural Gas Act as amended (15 U.S.C.A. 717) and engaged generally in the business of producing and purchasing natural gas for transportation and sale in interstate commerce for resale under the provisions of said Act by means of an integrated [fol. 5] pipeline system and facilities extending from Texas into and through Oklahoma and Kansas and into Missouri and Nebraska. In operating its interstate integrated pipeline system and as an integral part thereof, protestant has, among other things, entered into presently subsisting contracts with large and responsible producers in said Kansas Hugoton Field for the purchase of natural gas delivered to it in said field and by reason thereof is an interested party to these proceedings and will be vitally affected and substantially damaged in its operations in event the gas price-fixing relief requested by petitioners herein is granted in whole or in part.

"3. Protestant Cities Service Gas Company hereby protests the granting of the relief requested by said petitioners in their said petition, either in whole or in part, for the reasons and upon the grounds following, namely:

* * * * * * *

(f) Under the facts and circumstances currently existing in said Kansas Hugoton Field and operations of protestant therein, Commission has no jurisdiction or authority, either under application of petitioners or otherwise, to fix

or determine either a minimum or other price for natural gas produced in or from said Kansas Hugoton Field."

(For details of Protest, see Abs. App., pp. 7-12).

Commission's Gas Price-Fixing Order

On December 2, 1953, effective January 1, 1954, the Corporation Commission, after hearings consuming approximately 13 days, promulgated and issued its said minimum gas price-fixing order for the Kansas portion of the [fol. 3] Hugoton Field; the material part of said order necessary to consider on this appeal reads:

"That all persons, firms or corporations which take gas or cause gas to be taken from the Hugoton Gas Field in Kansas on and after January 1, 1954, 12:01 A.M., shall, as a condition precedent for withdrawal from the common source of supply, pay or attribute to all gas taken, except gas for the operations of leases, for all purposes including payments to producers, landowners, lease-owners and royalty owners, the fair and reasonable minimum price of not less than eleven cents (11¢) per Mcf. (14.65# psia.) at the wellhead until further order or orders of this Commission."

(For details of Order, see Abs. App., p. 12).

Testimony of Witnesses

The portions of the sworn oral testimony taken and received by the Corporation Commission at the hearings preceding the issuance of its said minimum gas price-fixing order in so far as it is necessary for this Court to read in order to arrive at a full understanding of and decide the specific questions presented for review in this case, are as follows:

Testimony of Ross M. STUNTZ.

Direct examination.

By Mr. Rolston:

I presently hold the position of consultant to the vice-president in charge of operations of the Cities Service Gas Company. I have been working at the natural gas business most of the time since 1906. Have been in charge of the [fol. 7] Company's pipe line system, of its production, and almost every other job except some highly technical job.

Cities Service Gas Company is an owner of leases, a (Tr. 1319) producer of gas, a transporter of gas, a wholesaler of gas for resale, makes large amounts of direct sales, owns substantial amounts of gas storage, pipe lines, compressor stations and other transportation facilities. It operates chiefly in the Panhandle of Texas and in the States of Kansas, Missouri, Oklahoma and southern Nebraska.

Protestant's Exhibit No. 34 was marked for identification.

Witness identified Exhibit No. 34 as a map of Cities Service Gas Company system as it now exists. As shown by the map, the principal markets are in the Joplin-Springfield area of southwestern Missouri and in the vicinity of Kansas City, Missouri, Kansas City, Kansas, and Sedalia, Missouri, and in eastern and southeastern Kansas, with a branch extending from Hutchinson, Kansas, to Superior, Nebraska, and also sells some gas in Oklahoma (Tr. 1320). Its principal markets are in Kansas, Missouri and Oklahoma.

A. The field where our Cities Service Gas Company gets most of its supply is the Hugoton Field, partly Kansas-Hugoton and partly Guymon-Hugoton, in Texas County, Oklahoma, and in the Amarillo Field in the Texas Panhandle, in the Edmond Field in Oklahoma County, Oklahoma, and in the Cement and Chickasha Fields. Its four gas storage fields are in El Dorado, Kansas, east of Wichita [fol. 8] about 20 miles, and the Craig Field west of Kansas

City about ten miles, and the two Welda fields which are shown together near Iola, Kansas (Tr. 1321).

Protestant's Exhibit No. 34 was received in evidence.

Protestant's Exhibit No. 35 was marked for identification.

Q. I now hand you what has been marked for identification as Exhibit No. 35 and ask you to state what that is and explain concerning it.

A. This exhibit is a tabulation with all the volumes of gas reduced to a 16.4 pound base of the gas purchased by Cities Service Gas Company in the Kansas-Hugoton Field during the year 1951. It shows the major producers from which it was purchased, the amount purchased from each one, the price and the total amount of money paid to each one. The total amount of gas purchased on that pressure base was 69,153,043 Mcf. The total money paid was $5,802,947.98. The weighted average price per Mcf was 8.39 cents (Tr. 1322).

Protestant's Exhibit No. 36 was marked for identification.

Q. I hand you what has been marked for identification as Exhibit No. 36 and ask you to state what that is and explain in connection with it.

A. At the top of the page there is a tabulation showing the number of wells that were connected either directly or indirectly at October 1, 1952, and the amount of gas out of that purchased during 1951, which was pur- [fol. 9] chased at the wells. That is the second column from the left.

The next column is a per cent of the total, that is 55.4 per cent of all gas purchased in the Kansas-Hugoton field during 1951 was purchased at the well head.

The second column from the right shows the amount of gas and from whom it was purchased at pipe line delivery and 44.6 per cent of all the gas purchased was bought at pipe line delivery during 1951.

The second tabulation shows the same amount of gas purchased in the Kansas-Hugoton Field during 1951, divided into the amounts of gas that were treated and the

amounts of gas that were not treated, 73.74 per cent (Tr 1323) of the total gas purchased was treated for the extraction of hydrocarbons and 26.53 per cent was not so treated.

Protestant's Exhibit No. 37 was marked for identification.

Cities Service Gas Company has no production in the Kansas-Hugoton Field and purchases all the gas it takes (Tr. 1324).

Q. I now hand you what has been marked Exhibit No. 37 and ask you to state what that is and explain the exhibit.

A. This exhibit is divided into two parts: The upper part is gas produced by the company, and in 1949 the company produced 35.11 per cent of the total gas it handled; the bottom part is the gas produced or gas purchased [fol. 10] showing the major sources of supply, and in 1949 the company purchased 64.89 per cent of the gas it handled. Similar information is given for 1950 and '51 which are actual figures from the company's books. For 1952 the figures given are a total of nine months actual and three months estimated, and for 1953 it is altogether estimated. In each year the percent of the total supply is shown that was gotten from each major source of supply (Tr. 1325).

Referring to Exhibit No. 37, reading from left to right, in the per cent is shown the rapid increase in the amount of gas Cities Service Gas Company has taken from the Kansas-Hugoton Field and proposes to take next year. I have made an estimate of the 1953 wellhead cost of gas at 8.6 in the Kansas-Hugoton Field (Tr. 1326) and in the Guymon-Hugoton Field the weighted average price is 8.2674. This price reflects the last wellhead fixing order in Oklahoma, with the wellhead price of 11 cents at 16.4.

The company buys no gas in the Texas Panhandle Field at the wellhead, but it produces a lot of gas, and the costs allowed by the Federal Power Commission for production costs and gathering costs amount to 1.8517 cents per thousand cubic feet. The weighted average price of all gas produced and purchased in the Guymon-Hugoton Field and produced in the Texas Panhandle Field is 4.9871 cents per thousand cubic feet.

Protestant's Exhibit No. 38 was marked for identification.

Q. I hand you what has been marked for identification as (Tr. 1327) Exhibit No. 38, and I wish you would state what that is and explain in connection.

[fol. 11] A. That is a tabulation taken from the monthly reports of the State Corporation Commission of Kansas, showing the number of connected wells in the Kansas-Hugoton Field by months, and the amount of gas run from them by months, together with some examples of how much the increased cost of gas would amount to at several rates and how that increased cost would be divided between royalty owners and working interest owners.

My calculation discloses that the 14-cent price requested by applicants in this proceeding would mean an increase in cost of $16,257,681.93, of which $14,225,471.70 would go to the producer and $2,032,210.23 would go as royalty.

Exhibits 35 to 38, inclusive, were prepared by me from the company's books or this Commission's monthly reports (Tr. 1328).

Exhibits 35, 36, 37 and 38 were received subject to cross-examination (Tr. 1329).

Cross examination.

By Mr. Fleeson:

The projection for 1953 for gas from the Kansas-Hugoton Field is 135,583 MM. For 1952, nine months actual and three months estimated, that compares with a figure of 103,569 MM, or approximately 32,000 MM more in '53 than in '52 (Tr. 1825).

Q. Now tell me or will you please tell the Commission what factors you used in arriving at that projection or what data you used?

[fol. 12] A. Well, I first used the total amount of gas that we will have to have from that field to meet the requirements that are to be supplied from it. One of those factors is the capacity of the 26-inch line to Kansas City, another is the amount of gas that will go from the Kansas-Hugoton

field through the Baker station, another is some gas that is purchased and afterwards used in balancing gas exchanges that are without price on a purely Mcf basis in the Kansas-Hugoton field, and another one is to——

Q. (Interrupting) Well, now, Mr. Stuntz, may I interrupt you to ask you whether that projection is based on contemplated purchases or contemplated sales.

A. That is based on contemplated purchases, and the capacity of facilities out of the field plus the things that we are going to supply in the field (Tr. 1826).

If we do not have a sale for gas, we just wouldn't take it. We have a new underground gas storage project at Colony, Kansas, and we expect to use 10 million cubic feet to fill it this year. That is a substantial requirement that hadn't been there before. And then we had a gas exchange that we got some gas from Northern Natural Gas Company last year, and we paid some of it back last year, and we will pay the rest of that back, and that takes care of about 17 billion, and then we will fill our previously existing storages (Tr. 1827) to the extent of 12 billion this year. Due to filling this storage for the first time, it only has five pounds in it now, and we will probably run that Kansas City 26-inch to capacity right through the year. The other line to Baker will run pretty close to capacity (Tr. 1828). We will start filling that storage in May and [fol. 13] probably get it filled in October. We would like to get as close to 100 per cent load factor as we can. We do not have any new gas purchase contracts for additional gas in the Hugoton field (Tr. 1829). We have no undeveloped acreage of our own in Kansas.

As shown by Exhibit 37, we purchased for the year 1951 from Guymon-Hugoton Field in Oklahoma 36,951 Mcf. In 1952, for nine months actual and three months estimated, our purchases from Guymon-Hugoton were 34,388 Mcf. The reason we cut down our purchases from that field was because we had a gas exchange on an Mcf basis in the Guymon-Hugoton Field and we owed about 10 million on that. We paid back some of it last year and we will pay back a little of it next year, but we still won't take as much gas out of Guymon-Hugoton next year as we did the year before. Our projection shows that there will

[fol. 102] EXHIBIT 34

1952
PIPE LINE SYSTEM
OF
CITIES SERVICE GAS COMPANY

LEGEND

- PRODUCING NATURAL GAS FIELDS
- NATURAL GAS STORAGE FIELDS (COMPANY OWNED)
- CITIES SERVICE GAS COMPANYS PIPE LINES
- ● COMMUNITIES SERVED AT WHOLESALE (POPULATION MORE THAN 10,000)
- ○ COMMUNITIES SERVED AT WHOLESALE (POPULATION LESS THAN 10,000)
- ⊕ COMPRESSOR STATIONS

NEB. NEB.

KANSAS

MISSOURI

MISSOURI

ARK.

TEXAS

OKLAHOMA

HUGOTON FIELD

AMARILLO FIELD

EDMOND FIELD

CEMENT FIELD

LUCIEN FIELD

BOYER STORAGE FIELD

WELDA STORAGE FIELD

COLONY STORAGE FIELD

HUGOTON STA 25800 H P

BEAVER STA 320 H P

ELLSWORTH STA 850 H P

YONS STA 1105 H P

EBERHARDT FIELD

BARKER STA 1100 H P

STRAIGHT STA 13000 H P

WHITE DEER STA 250 H P

HUTCHINSON

GREENSBURG STA 6400 H P

HIGGINS STA 7000 H P

MOORELAND STA 7000 H P

CORWIN STA 7000 H P

PAMPA STA 8000 H P

NEWTON

WICHITA

WICHITA STA 1000 H P

WELLINGTON

BLACKWELL STA 5000 H P

OKLAHOMA CITY

EDMOND STA 1100 H P

MATFIELD STA 6000 H P

EL DORADO

CAMBRIDGE STA 2925 H P

ARKANSAS CITY

DRUMRIGHT STA 4000 H P

TALLANT STA 4780 H P

BARTLESVILLE

ATCHISON STA 340 H P

ATCHISON

ST JOSEPH

LEAVENWORTH

TOPEKA

LAWRENCE

OTTAWA STA 7000 H P

EMPORIA

INDEPENDENCE KANSAS CITY

KNOBNOSTER STA 510 H P

SEDALIA

FORT SCOTT

PETROLIA STA 6300 H P

PARSONS

PITTSBURG

CARTHAGE

JOPLIN

SPRINGFIELD

SAGINAW STA 750 H P

WELCH STA 1600 H P

RABBIT STA 8250 H P

ANET STA 500 H P

INDEPENDENCE FIELD

103 M. 26

19 M. 26

231 MILES 26

249 MILES 20

151 M. 26

40 M. 20

98 M. 20

14 M. 6

63 M. 12

10 M. 24

57 M. 16

36 M. 12

16 M. 16

20 M. 16

59 M. 12

49 M. 12

43 M. 8

32 M. 12

78 M. 16

79 M. 16

47 M. 16

70 M. 10

136 M. 12

12 MILES 8

3 MILES 20

be taken from Guymon-Hugoton next year 22,508 and this year it was 24 (Tr. 1830).

The price order of the Oklahoma Commission had nothing to do with our taking less gas from the Guymon-Hugoton than from the Kansas-Hugoton. Our Exhibit 38 assumes that all gas produced during 1951 will be produced in the same amount in the future irrespective of whatever minimum price order is entered by this Commission. It is all based on the actual gas produced in 1951. Any order which might be entered by this Commission wouldn't be reflected until it was an order (Tr. 1831). It may make a difference as to the gas that is sold to companies for low use. The first price order in the Kansas-Hugoton Field didn't have anything to do with setting [fol. 14] those months down out there (Tr. 1832). We already had a contract to purchase gas from the Carbon Black Company, what they didn't want to use, and we subsequently got it all from Columbian (Tr. 1833) (Abs. R. Trial Ct. 94-101).

Testimony of GEORGE V. ROWLAND.

Direct examination.

By Mr. Rolston:

I reside at Wichita, Kansas, and am industrial sales manager for Cities Service Gas Company.

Practically all of my business career has been in the oil and gas operations of Cities Service Company and subsidiaries in the mid-continent field. During the 1920's I worked in the engineering department of the Cities Service Oil Company and Cities Service Gas Company as a clerk, timekeeper and foreman in the office, and in the field in construction of oil pipe lines and stations, gas pipe lines and compressor stations, gasoline plants, and other projects (Tr. 1330). From 1930 to the present time I have been engaged by Cities Service Gas Company as industrial engineer, commercial manager, and industrial sales manager.

My duties as industrial sales manager consist of negotiating new contracts and renewal contracts with industries directly served from the transmission system princi-

pally, and assisting when requested the distributing companies attached to Cities Service system in their industrial sales efforts, and preparing marketing forecasts and working with various civic and state bodies in their industrial development programs.

[fol. 15] In negotiation of sales contracts I have become generally familiar with the industrial uses of gas, utilization equipment, comparative fuel costs, and in some cases have installed and operated such utilization equipment. I have run fuel efficiency tests in industrial plants and have operated the (Tr. 1331) Cities Service Company heat prover to determine combustion efficiency. During the past 22 years I have been in most of the directly served industrial plants in distribution centers where the distributor requested upon numerous occasions as well as many plants located our assistance (Tr. 1332).

Protestant's Exhibit No. 39 was marked for identification.

This exhibit was prepared under my direction from company records and is entitled "Cities Service Gas Company Sales of Natural Gas from the Transmission System During the Fiscal Year 1951 at 14.9 p.s.i.a. for Light, Fuel, Repressuring, or for Chemical and Other Processes by which Such Gas is Converted into a Liquid or a Solid Substance" (Tr. 1332). It was prepared from the Company records.

The first page is a tabulation showing Cities Service Gas Company sales from its transmission system in all states. It includes direct sales to industries and lease operations and sales for resale. This tabulation shows that the total sales were 230,021,579 Mcf, of which 124,804,289 Mcf or 54.3 per cent were for industrial purposes; 89,497,631 Mcf or 38.9 per cent for domestic and commercial uses; and 15,719,659 Mcf or 6.8 per cent were sold to pipe line companies. The industrial group, "A," has been divided [fol. 16] into 10 classifications. This group covers special uses in practically all phases of industrial production, manufacturing and processing in the transmission system area, and with few exceptions these are large volume consumers using gas for large or other industrial purposes which agree to suspend the use of gas during emergencies when required for domestic purposes. These users also have the

right to discontinue (Tr. 1333) the use of gas due to fires, strikes, and other causes beyond their control.

With reference to "C" on page 1, where it says "Pipe Line Companies. Calculated proportion for domestic and commercial and industrial," those are sales of gas to pipe line companies off the transmission system for their general system use. We have asked the pipe line companies to give us a breakdown as to approximately how much was sold for industrial purposes and how much for domestic and commercial purposes and apply that ratio to our total sales to those pipe line companies (Tr. 1334).

With reference to page 2 of the exhibit, this page has been prepared along the same lines and has been broken down in the same manner as the page just described. It shows transmission sales in Kansas only, although state sales in other states have been added to the total. In addition to this a percentage column has been included to show the percentage of Kansas sales to the total transmission sales in each group, for example, under Group "A," Classification 1, we show that 96.5 per cent of our sales, our total transmission sales, for chemical production were made in Kansas. The same arrangement holds good all the way down. The tabulation also shows that our sales in Kansas [fol. 17] during the year 1951 were 140,906,472 Mcf or 51,-791,275 Mcf, then the combined sales in the four other states served (Tr. 1335). Of the Kansas sales 82,191,606 Mcf or 58.4 per cent were industrial; 45,286,732 Mcf or 32.1 per cent were for domestic and commercial, and 13,428,089 Mcf or 9.5 per cent were sales to other pipe line companies (Tr. 1336). Page 1 of the exhibit shows all sales except field sales (Tr. 1337).

Exhibit No. 39 was received in evidence.

Cross examination.

By Mr. Fleeson:

I heard the testimony of Mr. Morrison and so far as I know his plant is the only one of that nature on our system.

Referring to Exhibit 39, under "A" listing, there is

listed ten types of users. The majority of them have standby equipment to use other fuels when natural gas is interrupted. You heard Mr. Albus testify this morning that he had no standby for his process uses. There are two other similar instances, I don't mean chemical manufacture, but I am thinking of Fort Leavenworth where they have no standby fuel (Tr. 1582) (Abs. R. Trial Ct. 101-104).

Testimony of J. L. WILLARD.

Direct examination.

By Mr. Stites:

* * * * * * *

Protestant's Exhibit No. 46 was marked for identification.

Proposed Exhibit No. 46 reflects in a tabular form increase in purchase gas expense that Cities Service (Tr. [fol. 18] 1353) Gas Company would experience based on estimated gas purchases in the Kansas-Hugoton Field for the year 1953 and using assumed minimum field prices of 11, 12, 13 and 14 cents on a 16.4 p.s.i.a. basis.

Q. Or the corresponding price on a 14.65 basis?

A. That is correct.

I have used for the purpose of this exhibit the estimated withdrawals of gas from the Kansas-Hugoton Field for the year 1953. The reason why the actual for 1951 and the actual and estimated for the year 1952 were not used in the preparation of this exhibit was because any minimum price that may be set by the Commission could not apply to those prior year volumes, so it appeared of no use to make application to the actual prior year volumes. The actual volumes for 1951 are not representative of what the future operations will be. The increased volumes necessary to (Tr. 1354) meet our increasing annual load are mainly coming from the Kansas-Hugoton Field, and so '51 volume would not be representative. In 1951 the Kansas-Hugoton facilities were not completed. They will be completed in the year 1953 and we will probably further add to it as years go by. There has been considerable capacity added since 1951.

The bottom tabulation on page 1 of the exhibit reflects the disposition of increased expense that our company would experience, based on estimated 1953 purchases in the Kansas-Hugoton Field on the same assumed minimum prices of 11 to 14 cents on a 15.4 p.s.i.a. base (Tr. 1355).

On the second page, on the tabular portion of the exhibit, we have two columns to represent the disposition [fol. 19] of estimated increases in our expense, one column representing one-eighth of the total increase which would go to royalty owners and the other indicating the amounts that would go to the various producers in the field. We have not indicated each and every particular producer from which this company purchases gas in Kansas-Hugoton Field who would feel the beneficial effect of an increase in the field price, but we have indicated individually the main producers and a small group is combined into one total. There are four or five individual companies selling the largest volumes in the Kansas-Hugoton Field (Tr. 1356).

I have reflected the various amounts paid to the various producers by scales. Assuming an eleven cent order, the column indicated there in the space marked "6" indicates the dollars which would go to Stanolind Oil & Gas Company of Tulsa (Tr. 1357).

Exhibits Nos. 40 to 46, inclusive, were received in evidence, subject to cross-examination (Tr. 1358).

None of these exhibits include any figures for so-called field sales of gas or carbon black sales except that in the last exhibit, No. 46, the expenses there are based on our total 1953 estimated takes from the field some of which may be disposed of in the Kansas-Hugoton Field (Tr. 1359) (Abs. R. Trial Ct. 105-114).

[fol. 20] Testimony of L. C. Benne.

Direct examination.

By Mr. McClure:

I am the same L. C. Benne who testified previously in this case and am (Tr. 1037) Assistant General Superintend-

ent with the Cities Service Gas Company. Cities Service Gas Company sells gas to the Union Gas system at a point of delivery south of Independence, Kansas, one north of Coffeyville, and one north of Fredonia. I testified previously that about 10% of the gas furnished to the eastern part of the state was Kansas Hugoton gas which is diffused in our lines, with other gas that we purchase from Oklahoma (Tr. 1938). After the gas was diffused in the main it would be hard for a purchaser in Coffeyville to tell the source of gas that was used in his plant and whether it was Kansas Hugoton gas or from some other source. As a matter of fact it would be almost impossible for him to tell whether he was using Kansas Hugoton gas or some other gas (Tr. 1939). Cities Service Gas Company also supplies gas to the City of Atchison, and due to our operations there are times when Atchison uses all Kansas Hugoton gas and the balance of the time they use a diffusion of gases in our system. Beloit uses all Kansas Hugoton gas and the gas is furnished by Cities Service Gas Company. Emporia will use about 40% Kansas Hugoton gas and is in the same situation as Coffeyville. The gas is diffused in our mains and it is impossible of segregation. Cities Service also furnishes gas to Topeka and makes a direct sale to the Goodyear Rubber Tire Company at Topeka (Tr. 1940).

[fol. 21] Cross examination.

By Mr. Fleeson:

Atchison will use between 40 and 50 per cent Kansas Hugoton gas over a year's period.

Redirect examination.

By Mr. McClure:

There are times when all of Atchison's supply is (Tr. 1940) Kansas Hugoton gas. Topeka uses between 40 and 50 per cent of Kansas Hugoton gas over the year. Kansas City, Kansas, will use about the same proportion of Kansas Hugoton gas (Tr. 1941) (Abs. R. Trial Ct. 268-269).

Redirect examination.

By Mr. Stites:

Q. Mr. Benne, I think you were also asked as to the amount of Kansas-Hugoton gas that went to Spencer Chemical Company. Do you recall your testimony to that effect?

A. Yes, sir.

Q. I believe you stated that about 10 per cent of their requirement was Kansas-Hugoton gas, is that correct?

A. That is right.

Q. Is that a gas that flows south from the Kansas-Hugoton Field through our so-called Baker's station as shown on our exhibit, I believe it is 34?

A. That is right.

Q. And eastward from Baker's station to Blackwell where it is commingled with gas in other sources in Oklahoma?

(Interruption)

Q. At Blackwell, the Kansas-Hugoton gas, well, first, at Baker's station is it commingled with gas from the Oklahoma-Hugoton Field?

[fol. 22] A. Yes, sir.

Q. And then it flows east to Blackwell where it is commingled with gas from our so-called Oklahoma City 20-inch, is that correct?

A. That is correct (Tr. 1808-1809).

Cross examination.

By Mr. Kyle:

Q. Referring, then, to your Blackwell-Guymon line again, is there any connection with the Blackwell-Guymon line with the Hugoton Field in Kansas, not shown on this page 9?

A. A direct connection?

Q. A direct connection.

A. There is no direct connection between the main lines. There is a connection between the field system in the Kansas-Hugoton Field with the Guymon-Blackwell line.

Q. Do you compress any gas from Kansas-Hugoton into your Blackwell-Guymon line?

A. Yes, sir.

Q. All right, then referring, then, to the Exhibit 47, page 9, what is called, what Mr. Stites, I think, referred to as your Oklahoma City 20-inch line, that extends into the State of Kansas, is that correct?

A. That is right.

Q. And does that bisect or connect with the Blackwell-Guymon line?

A. Yes, sir, at Blackwell.

Q. Is there an exchange of gas, an interconnection there, much flow of gas between the two lines?

A. Yes, sir, the two gases are commingled there.

Q. They are commingled there at your South Blackwell station, is that correct?

[fol. 23] A. That is correct.

. . . . . .

Q. The gas that flows from the Oklahoma City 20-inch line outside of serving certain cities in Oklahoma flows into and serves certain cities in Kansas, is that correct?

A. That is right.

. . . . . .

Q. And the Blackwell-Guymon line that flows in an easterly direction from the Guymon Field eventually serves southeastern Kansas, is that correct, generally speaking, on up through Eastern Kansas?

A. That is right, the commingled gas.

Q. The commingled gas?

A. That is right, serves eastern Kansas.

. . . . . .

Q. What percentage of gas on a peak day does the Blackwell-Guymon line receive from the Kansas-Hugoton?

A. About 10 per cent.

Q. Not more than 10 per cent?

A. No. It would be approximately 10 per cent.

Q. Approximately 10 per cent of the gas that is received by the Guymon-Blackwell line is from the Kansas-Hugoton, is that correct?

A. That is right (Tr. 2221-2224).

Cross examination.

By Mr. Stucky:

Q. That Craig storage field there, that stores gas mostly for use in the Kansas City, Missouri, area, is that right?

A. No, sir, that is not correct.

Q. Sir?

[fol. 24] A. No, sir. That serves the Kansas City, Kansas, area as well as Kansas City, Missouri. It serves that whole Kansas City area. You just can't say it serves Kansas City, Missouri.

Q. I said primarily the Kansas City, Missouri, area.

A. No.

Q. Your market is larger in Kansas City, Missouri, than it is in Kansas City, Kansas, is it not?

A. That is true, but it would be on a percentage basis (Tr. 2240-2241).

Redirect examination.

By Mr. Stites:

Q. Mr. Benne, your attention was called to the map on page 9 of Exhibit 47. Does that map show the pipe line from the Kansas-Hugoton field to the Oklahoma-Guymon line?

A. No, sir.

Q. This map is the system as of December 31, 1951, is that correct?

A. That is correct.

Q. And when was that connection made?

A. That connection was made in July of 1952.

Q. The system map which was introduced, I believe, as Exhibit 36 indicates that pipe line, does it not?

A. I will have to see that exhibit.

. . . . . .

Q. Mr. Benne, you were asked numerous questions with reference to the amount of Kansas-Hugoton gas consumed at particular locations in Kansas. I wish you would state for the record, please, if you have the figures, the percent of Kansas-Hugoton gas taken by Cities Service Gas Com-

[fol. 25] pany that was consumed in Kansas for the year 1952.

A. I have such a figure.

Q. What is it?

A. 48½ per cent (Tr. 2242-2243).

Further redirect examination.

By Mr. Stites:

Q. Mr. Benne, just another question or two. In the operation of a pipe line system such as Cities Service Gas Company, can it be said that any particular source of supply is dedicated to any particular area on the company's system?

A. It definitely cannot.

Q. I wish you would explain why that condition does not exist.

A. We get our gas from four major sources of supply, and in the operation of our system it is absolutely necessary that we diffuse that gas or commingle it to take care of all of our market, not one particular market, but all of them (Tr. 2250-2251) (Second Supp. Abs. R. Trial Ct. pp. 1 to 5).

Testimony of J. G. SHATTUCK.

Direct examination.

By Mr. Fleeson:

Q. Now, let's take Cities Service Gas Company, what part of its supply comes from the Kansas Hugoton Field?

A. About 31 per cent.

Q. What part of Cities Service sales are made in Kansas?

A. About 68 and a half per cent.

[fol. 26] Q. What part of Cities Service sales in Kansas comes from other sources than the Kansas Hugoton Field?

A. I don't have the data to determine that exactly, but it can't be less than about 40 per cent.

Mr. Fleeson: Do you want a clarifying question?

Mr. Stites: Yes.

By Mr. Stites:

Q. Mr. Shattuck, I didn't quite get the significance of that 40 per cent. What is it that that represents?

A. Cities Service—I can tell you how I got to it. Will that answer your question?

Q. I don't care how you got it, but what is it?

A. It is the portion of the sales within Kansas that are made from Kansas Hugoton gas by Cities Service (Tr. 609-610).

Redirect examination:

By Mr. Fleeson:

Mr. Shattuck: "Yes, I would like to correct a figure which I gave in answer to Mr. Fleeson's questions. I gave the figure as 68½ per cent as the portion of Cities Service sales made in Kansas. I read the wrong figure. It should have been 52 per cent." (Tr. 669).

Mr. Stites: May I ask a clarifying question there?

Commissioner Stiles: Clarifying question.

By Mr. Stites:

Q. The calculations you made insofar as Cities Service Gas Company is concerned were taken by you from the annual report, is that correct?

A. Yes, to the Federal Power Commission.

Q. For the year ended December 31, 1951?

[fol. 27] A. That is right (Tr. 670) (Second Supp. Abs. R. Trial Ct., pp. 5 and 6).

Testimony of THOMAS D. BAILEY.

Direct examination.

By Mr. Stucky:

Q. Will you state what Exhibit 13 is designed to show?

A. Exhibit No. 13, my Table 3, shows comparative fuel prices in Detroit, Michigan, using September 3, 1952, source costs and present transportation rates from fuel sources

to Detroit. Tabulated in the columns on this table are pound per million b.t.u. figures, transportation rates per hundred pounds, and per million b.t.u.s., and costs per million b.t.u.s. at the source and wholesale in Detroit for all the various fuels listed in the left-hand column (Tr. 215).

Further direct examination.

By Mr. Stucky:

Q. Mr. Bailey, I hand you what the reporter has marked as Exhibits No. 14, 15, 16 and 17, and I wish you would explain what they are, referring to your explanation of Exhibit 13 in doing so.

A. Exhibits No. 14, 15, 16 and 17, my tables IV, V, VI and VII, present similar comparative data on wholesale fuel costs in Kansas City, Missouri, Omaha, Nebraska, Minneapolis, Minnesota, and Denver, Colorado, respectively (Tr. 230).

• • • • • • •

Q. All right, handing you Exhibit No. 19, will you describe what this exhibit shows. All right, will you proceed [fol. 28] with your explanation of Exhibit 19. You may proceed.

A. Exhibit No. 19, my table X, presents my calculations of the well head value of Kansas-Hugoton Field natural gas based on delivered wholesale costs of competitive coals in the five cities listed. Delivered wholesale costs of lump and slack coals are the same calculated costs of coals in these cities as shown on Exhibits 13 to 17, inclusive, and summarized in Exhibit No. 18 (Tr. 233) (Second Supp. Abs. R. Trial Ct. pp. 6 and 7).

Testimony of D. A. Howard.

Direct examination.

By Mr. Stucky:

Q. Will you state in a very general way and in a summary way, perhaps, the different methods by which gas in the Hugoton Field is marketed?

A. The pipe line company takes gas at the well head, that is one way the gas is marketed. The other way is by gathering by producers and delivering to the purchaser at a common point of delivery.

Q. Do you have any figures approximately of how many of the sales are well head sales and how many are sales at a point removed from the well head? Have you made an estimate on that?

A. Yes. As near as I could tell from the September proration order of the Commission, the Kansas Commission, approximately 16.7 per cent of the producing gas wells in the Hugoton Field are owned by interstate carriers or pipe line companies who take the gas from the wells and put it into their interstate lines and market it at points [fol. 29] removed from the field, who, for the most part, are in interstate commerce.

Q. And the remainder of the wells in the field are owned by others, is that correct?

A. Yes.

Q. Some of this gas owned by others is sold at the well head and some is sold at a point removed from the well head, is that correct?

A. That is correct.

Q. Now, drawing your attention to the gas which is sold through these various agreements you have referred to, what is the point of delivery?

A. Portions of the gas produced is sold at the well head and other portions of the gas are delivered to the pipe line company at some point in the field, the Hugoton Field, in Kansas, after being gathered by the producer (Tr. 370-371).

Further direct examination.

By Mr. Stucky:

Q. In your opinion would it be economically practical for a new interstate line to be built extending its gathering system into the scattered undedicated acreage in the field now?

A. No, sir.

Q. That is, in your opinion?

A. I would say that it would not be economical. In fact, I don't believe that they could get a certificate of necessity and convenience from the Federal Power Commission (Tr. 376) (Second Supp. Abs. R. Trial Ct. pp. 7 and 8).

[fol. 30] No evidence or testimony was introduced before the Commission by its Staff or anyone else that in anywise contradicts or disputes the evidence and testimony of Appellant Cities Service Gas Company disclosing its operations as a natural gas company in the purchasing, transporting and marketing of natural gas, as set forth in the foregoing testimony.

MEMORANDUM OPINION OF COMMISSION—December 2, 1953

The Corporation Commission on the same day it issued said minimum gas price-fixing order for the Kansas-Hugoton Field, namely, December 2, 1953, issued a memorandum opinion explaining its position with respect to said order. (For details of memorandum opinion, see Ab. App. pp. 20-28).

PETITION OF CITIES SERVICE GAS COMPANY FOR REHEARING—Filed December 11, 1953

Within the time prescribed by statute and on December 11, 1953, Appellant Cities Service Gas Company duly filed with Commission and served its petition for rehearing of said Commission's minimum gas price-fixing order. The material portion thereof necessary for the Court to consider on this appeal reads:

"24. • • •

C. As applied to the operations of petitioner (Cities Service Gas Company) as evidenced by the record, there exists in the Commission no jurisdiction or authority to promulgate, issue or enter the said order."

[fol. 31] ORDER OF COMMISSION DENYING PETITION FOR REHEARING—December 16, 1953

On December 16, 1953, the Corporation Commission entered its order denying Cities Service Gas Company's petition for a rehearing of said order. (For details of order denying rehearing, see Abs. App. p. 48).

PETITION OF CITIES SERVICE GAS COMPANY FOR A JUDICIAL REVIEW OF COMMISSION'S MINIMUM GAS PRICE-FIXING ORDER—January 14, 1954

On January 14, 1954, and within the time prescribed by G. S. 1949 55-606 and 55-707, Appellant Cities Service Gas Company, as plaintiff, instituted against Commission in the District Court of Finney County, Kansas, one of the counties wherein the property affected by Commission's said minimum gas price-fixing order was located, an action for judicial review of Commission's said order, and caused summons to be issued and properly served upon said Commission. The material portions of such petition necessary for the Court to consider on this appeal read:

"1. Plaintiff is now and has been during all times material herein a Delaware corporation, duly authorized to transact business in the State of Kansas as a foreign corporation, with its principle office and place of business in the First National Building, Oklahoma City, Oklahoma, and an operating office at Wichita, Kansas.

"2. Plaintiff is now and has been during all times material herein a natural gas company as defined in the Natural Gas Act as amended (15 U. S. C. A. [fol. 32] 717 and engaged generally in the business of producing and purchasing natural gas for transportation and sale in interstate commerce for resale under the provisions of said Act by means of an integrated pipeline system and facilities extending from Texas into and through Oklahoma and Kansas and into Missouri and Nebraska. In operat-

ing its said interstate integrated pipeline system, and as an integral part thereof, plaintiff has among other things, entered into contracts with certain producers in the Kansas-Hugoton Gas Field which are presently subsisting and have been subsisting during all times material herein for the purchase of natural gas produced in and from said Field, a part of such gas under said contracts being purchased at the wellhead in said Field and a part of such gas under said contracts being purchased from producers and delivered to plaintiff at its pipeline after such producers had produced and gathered such gas. After such gas is purchased by plaintiff, it is transported and sold along with other gas it produces and purchases for resale both in interstate and intrastate commerce in Kansas and other states.

"3. On the 2nd day of December, 1953, said defendants, purporting to act in their official capacity as the Corporation Commission of the State of Kansas, hereinafter called 'Commission', promulgated and issued a minimum gas price-fixing order for said Kansas-Hugoton Gas Field finding and providing therein, among other things:

'IT IS FURTHER BY THE COMMISSION ORDERED: That all persons, firms or corporations which take gas or cause gas to be taken from the Hugoton Gas Field in Kansas on and after January 1, 1954, [fol. 33] 12:01 a.m., shall, as a condition precedent for withdrawal from the common source of supply, pay or attribute to all gas taken, except gas for the operations of leases, for all purposes including payments to producers, landowners, lease owners and royalty owners, the fair and reasonable minimum price of not less than eleven cents (11¢) per M.c.f. (14.65 pounds p.s.i.a.) at the wellhead until further order or orders of this Commission.'

"4. After the issuance of said order and within the time and in the manner prescribed by G. S. 1949,

55-606, plaintiff duly filed with Commission its petition for rehearing. Thereafter, and on the 16th day of December, 1953, said Commission denied plaintiff's said petition for rehearing.

"5. Plaintiff further states that as a purchaser of gas produced in and from said Kansas-Hugoton Field it is aggrieved by the promulgation and issuance of said order; that the property of plaintiff affected by said order is located, among other counties, in Finney County, Kansas, and jurisdiction for a judicial review of said order of said Commission is granted by G. S. 1949, Sections 55-707 and 55-606.

"6. Plaintiff, in further support of its petition for judicial review, herein states: • • •

F. As applied to the operations of plaintiff (Cities Service Gas Company) as evidenced by the record, there exists in the Commission no jurisdiction or authority to promulgate and issue said minimum gas price order. • • •

[fol. 34] "Wherefore, plaintiff prays:

(a) That the Court take jurisdiction of this action and judicially review said minimum gas price order of said Commission and the findings upon which the same is based, the memorandum opinion of Commission made a part thereof by reference, together with the evidence and testimony in the record, and enter a judgment setting aside said order and the findings made therein and in said memorandum opinion made a part thereof by reference, and declare said order ineffective, unconstitutional and void • • • ."

(For details of petition for judicial review, see Abs. App. pp. 49-58).

JOURNAL ENTRY OF JUDGMENT AFFIRMING ORDER OF COMMISSION

The Corporation Commission filed no answer of any kind or character to Appellant Cities Service Gas Company's petition for judicial review. It did file motions to dismiss the action which the court denied. The case was set for trial and heard by the court on the record on April 26, 1956. The court took the case under advisement after hearing oral argument and considering the respective briefs of the parties. On May 14, 1956, the court entered its judgment upholding, sustaining and affirming the minimum gas price-fixing order of the Commission. On the same day, Appellant Cities Service Gas Company duly filed and served its motion for a new trial, which was overruled and denied instanter. (For details of the court's journal entry of judgment affirming the order, and denying motion for new trial, see Abs. App. pp. 58-60).

[fol. 35] APPELLANT CITIES SERVICE GAS COMPANY'S MOTION FOR NEW TRIAL—Filed May 14, 1956

The grounds of Appellant Cities Service Gas Company's motion for a new trial filed on May 14, 1956, were:

"(a) Erroneous rulings of the Court.

"(b) The judgment and decision is in whole or in part contrary to the evidence.

"(c) As applied to the operations of plaintiff Cities Service Gas Company, a natural gas company as defined by the Natural Gas Act, 15 U.S.C.A. 717, as evidenced by the record in this case, there exists in said defendant State Corporation Commission of Kansas, no jurisdiction or authority to promulgate and issue said minimum gas price-fixing order."

(For details of motion for new trial, see Abs. App. p. 61).

Notice of Appeal by Cities Service Gas Company to the Supreme Court of Kansas—Filed May 19, 1956

On May 19, 1956, and within the time prescribed by law, Appellant Cities Service Gas Company, plaintiff below, filed with the Clerk of the District Court of Finney County, Kansas, its notice of appeal to this Court, which notice was duly served on Appellee, defendant below, and proof of service thereof filed with the Clerk of the trial court. Said notice of appeal, omitting caption, signatures of counsel, and proof of service thereof, reads:

> [fol. 36] "You, and each of you, will hereby take notice that the above-named Plaintiff Cities Service Gas Company has appealed, and does hereby appeal to the Supreme Court of the State of Kansas from the judgment and decision, and every part thereof, made, entered and rendered by the District Court of Finney County, Kansas, in the above entitled action on the 14 day of May, 1956, whereby and wherein said Court sustained and affirmed the minimum gas price-fixing order of said Defendant State Corporation Commission of Kansas, issued December 2, 1953, effective January 1, 1954, involved in said above-entitled action, as applied to the operations of Cities Service Gas Company, and does further appeal to said Supreme Court from the order of said District Court, made and entered therein on said aforesaid date, denying and overruling said plaintiff's motion for a new trial in said above entitled action."

Specification of Errors

1. The trial court erred in the judgment made and entered by it in this cause on May 14, 1956, in upholding, affirming and sustaining said minimum gas price-fixing order of the Corporation Commission as applied to sales of natural gas made by producers in the Kansas-Hugoton Field to Appellant, after its production and gathering had ended, for transportation and resale in interstate commerce, because such sales are subject to the exclusive

jurisdiction of the Federal Power Commission under the Natural Gas Act (15 U. S. C. A. 717) and said order, as applied to such operations of Cities Service Gas Company, is invalid and unenforceable, and said Corporation Com-
[fol. 37] mission had no jurisdiction or authority to promulgate and issue the same.

2. The trial court erred in the judgment made and entered by it in this cause on May 14, 1956, in upholding, affirming and sustaining said minimum gas price-fixing order of the Corporation Commission as applied to sales of natural gas, at the wellhead by producers in said Kansas-Hugoton Field to Appellant, for transportation and resale in interstate commerce, because such sales are subject to the exclusive jurisdiction of the Federal Power Commission under the Natural Gas Act (15 U. S. C. A. 717) and said order, as applied to such operations of Cities Service Gas Company, is invalid and unenforceable, and said Corporation Commission had no jurisdiction or authority to promulgate and issue the same.

3. The trial court erred in overruling and denying Appellant's motion for a new trial.

4. The trial court erred in its judgment and decision in affirming said order because such judgment and decision is contrary to the undisputed evidence as applied to the operations of Appellant in the sales of natural gas to it in said field by producers therein, for transportation and resale in interstate commerce.

CERTIFICATE OF COUNSEL

The foregoing is a true and correct abstract of the record in the above entitled action, including that portion thereof set forth in "Abstract Appendix", made a part of this abstract by reference. The amount necessarily paid [fol. 38] for printing this abstract and the appendix thereto is $391.37, and Appellant hereby claims such amount as costs herein pursuant to the provisions of Rule No. 18 of this Court.

Conrad C. Mount, O. R. Stites, Gordon J. Quilter, Joe Rolston, P. O. Box 1995, First National Building, Oklahoma City, Oklahoma;
M. F. Cosgrove, National Bank of Topeka Building, Topeka, Kansas;
Mark H. Adams, Wheeler Kelly Hagny Building, Wichita, Kansas;
D. B. Lang, Scott City, Kansas;

Attorneys for Appellant, Plaintiff Below, Cities Service Gas Company.

June, 1956.

[fol. 40] No. 40402

IN THE SUPREME COURT OF THE STATE OF KANSAS

CITIES SERVICE GAS COMPANY, a Corporation,
Appellant, Plaintiff Below,

v.

STATE CORPORATION COMMISSION OF KANSAS, HARRY SNYDER, JR., Chairman, RICHARD C. BYRD and JOHN I. YOUNG, as Members of Said Commission, and Their Respective Successors in Office, Appellees, Defendants Below.

APPEAL FROM THE DISTRICT COURT OF FINNEY COUNTY, KANSAS, HONORABLE ROLAND H. TATE, JUDGE.

Abstract Appendix of Appellant

This Appendix to the Abstract of Appellant in this case contains in full all pleadings, orders, rulings of Commission and exhibits pertinent and necessary for the Court to consider in determining the questions for review presented in this appeal.

The caption, verifications and signatures of each pleading or order involved have been omitted as same are immaterial.

[fol. 41] BEFORE THE STATE CORPORATION COMMISSION OF THE STATE OF KANSAS

Docket No. 44079-C (C-3216)

Conservation Division

IN THE MATTER OF THE APPLICATION OF CERTAIN ROYALTY OWNERS IN THE HUGOTON GAS FIELD REQUESTING ORDERS AS TO A FIXED PRICE AND MEASUREMENT REGULATIONS IN SAID HUGOTON GAS FIELD.

PETITION OF SOUTHWEST KANSAS ROYALTY OWNERS ASSOCIATION

The petitioners hereinafter named represent and show to the Commission as follows:

1. The petitioners Stanley Julian, Fred Shore, Harry Lightcap, Ben W. Parsons, I. C. Wiatt, E. W. Campbell, Frank G. Boles, Oliver S. Brown, Floyd Breeding, L. F. Roderick, F. S. Williams, L. O. Stanley, Herbert Foster, Dan C. Sullivan and Howard Drew are individual residents of the State of Kansas and are the owners of minerals in place or royalty interest in the Hugoton field in the State of Kansas.

2. The petitioner Southwest Kansas Royalty Owners Association is a non-profit membership corporation organized and existing under the laws of the State of Kansas, all of whose members are persons owning minerals in place or royalty interest in the Hugoton gas field in the State of Kansas.

[fol. 42] 3. This petition is filed in pursuance to G.S. Kan. 1949 55-706 by the petitioners as parties interested in the enforcement of the Act relating to the Production and Conservation of Natural Gas, Chapter 233 of the Kansas Session Laws of 1945, G.S. Kan. 1949 55-701 to 55-713, and in the promulgation, revocation, amendment, renewal, interpretation and extension and enforcement by this Commission of rules, regulations and orders under the Act and in the de-

termination by this Commission of the rights under the Act of the petitioners as the owners of minerals and as the owners of royalty interests as persons interested in the production of natural gas in the Hugoton field and in the determination of their rights and the correlative rights of all other persons similarly situated, of producers within the field and the interests of the public at large in the conservation of a great natural resource.

4. The Hugoton gas field is a natural gas reservoir located in Kearny, Finney, Grant, Haskell, Morton, Seward, Stanton and Hamilton Counties, Kansas, which is a common source of supply extending south to the Kansas-Oklahoma state line and into the State of Oklahoma and into Texas. The Hugoton field is one of the largest known gas reserves in the United States and the natural gas in the Hugoton field constitutes a valuable, exhaustible and irreplaceable natural resource, the conservation of which is in the public interest and a matter of local concern to the State of Kansas. There are as of August 15, 1952, more than 2,742 gas wells which have tapped this natural gas reservoir in Kansas and are producing gas therefrom, an increase since March, 1949, the date of the prior order of this Commission hereinafter referred to, of 1,330 wells. A large per- [fol. 43] centage of the gas being produced in Kansas is being transported to points far distant from the State of Kansas and there used for industrial purposes.

5. Heretofore, and on February 6, 1948, the Southwest Kansas Royalty Owners Association and certain petitioners therein named instituted proceedings before this Commission in which they sought an order prescribing minimum terms under which gas could be taken from the Hugoton field in order to conserve the gas and prevent the waste thereof and protect the correlative property rights in a common source of supply. A copy of the amended petition therein (Docket No. 35154-C) is hereto attached, marked "Exhibit A" and made a part hereof. Thereafter, and on the 18th day of February, 1949, this Commission made its interim order, a copy of which is hereto attached, marked "Exhibit B" and made a part hereof. Thereafter the interim order of this Commission was upheld by the Supreme

Court of the State of Kansas in case No. 37,921, Kansas-Nebraska Natural Gas Company, Inc., a Corporation, Appellant, v. State Corporation Commission et al., Defendants, reported in 169 Kan., at page 722.

6. Petitioners further allege that price variations within the field range from eight (8) cents per Mcf, as provided under the interim order, to fifteen (15) cents per Mcf. Variations likewise exist with reference to the pressure basis of measurement, among different purchasers of gas. This variation is from 14.65 pounds per square inch to 16.4 pounds per square inch. These variations in the amounts paid to royalty owners and sellers of gas consistently run from 50 per cent to nearly 100 per cent and result in and [fol. 44] cause (a) the economic waste of an irreplaceable natural resource, namely, natural gas, (b) actual physical waste of natural gas, (c) the inequitable and unfair taking of natural gas from the common source of supply, (d) unreasonable discrimination against various producers from the common source of supply, (e) loss and inequities among royalty owners within the field.

7. Petitioners further allege that the interim order, Exhibit B aforesaid, is no longer adequate to prevent waste and protect the correlative rights of the royalty owners and producers of gas and insure the proper and adequate development of said field; and that the Commission ought to set a minimum price of not less than fourteen (14) cents per Mcf measured on a pressure basis of 16.4 pounds per square inch or not less than twelve (12) cents per Mcf measured on a pressure basis of 14.65 pounds per square inch.

8. Petitioners further allege that the Corporation Commission of the State of Oklahoma, into which State the Hugoton field extends, did by its order dated the 29th day of July, 1952, provide as follows:

> "1. That no gas shall be produced from any Well located in the Guymon-Hugoton Field of Oklahoma except at a price of not less than 9.8262¢ per thousand cubic feet if sold at the wellhead or on the lease or drilling unit from which produced, or a price equiva-

lent to not less than 9.8262¢ per thousand cubic feet at the wellhead if sold off the lease or drilling unit or otherwise utilized. If the gas is sold during or upon conclusion of gathering without being processed for the extraction of liquid hydrocarbons, the price shall not be less than 9.8262¢ per thousand cubic feet plus [fol. 45] the reasonable cost of gathering. If the gas is processed for extraction of liquid hydrocarbons and sold during or at the conclusion of gathering, the price for the residue gas shall be not less than 9.8262¢ per thousand cubic feet.

"2. The minimum price specified above for the sale of residue gas after processing during or upon conclusion of gathering contemplates that said residue gas will contain at least 950 British Thermal Heating Units per cubic foot of gas saturated with water vapor at standard conditions. In the event such residue gas contains less British Thermal Heating Units than specified above, the minimum price for such gas shall be in the proportion that the British Thermal Heating Units of such gas is to 950 per cubic foot.

"3. For the purpose of this order a cubic foot of gas shall mean a volume of gas contained in one cubic foot of space measured at a pressure of 14.65 pounds per square inch absolute at a temperature of sixty degrees Fahrenheit (60° F.).

"4. This order shall become and be effective the 1st day of August, 1952."

9. Petitioners allege that the State of Oklahoma is further removed from the markets for natural gas than is the State of Kansas.

10. Petitioners further allege that the production of natural gas in the Hugoton Field is in excess of the market demand.

WHEREFORE petitioners pray:

1. That a day be assigned for the hearing of this petition.

[fol. 46] 2. That notice thereof be given and served as required by law and the rules of this Commission.

3. That the Commission permit the petitioners, producers, royalty owners and all other persons interested to present evidence of the facts alleged in this petition and all other relevant facts, and that the Commission hear and determine the matter herein involved and make findings and make such orders, rules and regulations as may be proper and necessary to effectuate the Act and in order to carry out its spirit and purpose.

PROTEST OF CITIES SERVICE GAS COMPANY

Comes now Cities Service Gas Company and with permission of Commission first had and obtained files this its protest herein against the granting of the relief requested by petitioners in their said petition and states:

1. Protestant is a Delaware corporation duly authorized to transact business in the State of Kansas as a foreign corporation with its principal office and place of business First National Building, Oklahoma City, Oklahoma, and an operating office at Wichita, Kansas.

2. Protestant is a natural gas company as defined in the Natural Gas Act as amended (15 U.S.C.A. 717) and engaged generally in the business of producing and purchasing natural gas for transportation and sale in interstate commerce for resale under the provisions of said Act by means of an integrated pipeline system and facilities extending from Texas into and through Oklahoma and Kansas and into Missouri and Nebraska. In operating its interstate inte-[fol. 47] grated pipeline system and as an integral part thereof protestant has, among other things, entered into presently subsisting contracts with large and responsible producers in said Kansas-Hugoton Field for the purchase of natural gas delivered to it in said field and by reason thereof is an interested party to these proceedings and will be vitally affected and substantially damaged in its opera-

tions in event the gas price-fixing relief requested by petitioners herein is granted either in whole or in part.

3. Protestant Cities Service Gas Company hereby protests the granting of the relief requested by said petitioners in their said petition, either in whole or in part, for the reasons and upon the grounds following, namely:

(a) Under the facts and circumstances currently existing in said Kansas-Hugoton Gas Field and in the markets where such gas is consumed and used, natural gas is being currently produced, consumed and used without waste, either physical, economic or otherwise, as defined and contemplated by existing conservation statutes and subsisting regulations of Commission pertaining thereto. There currently exists in said field no inequitable or unfair taking of natural gas produced therein as contemplated by the Kansas conservation statutes. There is occurring no unreasonable discrimination in favor of or against any producer in such common source of supply of natural gas as contemplated by the conservation statutes of Kansas. Orderly development of production of natural gas in said field and conservation thereof is currently taking place under existing conservation statutes and subsisting regulations of Commission promulgated thereunder in said field, and by reason of the foregoing facts and circumstances there [fol. 48] presently exists in said field no legal justification or reason for Commission to grant, either in whole or in part, the relief requested by said petitioners.

(b) The order requested by applicants would in no way, directly or indirectly, cause or contribute to:

(1) the prevention of economic, physical, underground or surface waste or any other type of waste of natural gas;

(2) the prevention of the inequitable and unfair taking of gas from a common source of supply;

(3) the prevention of unreasonable discrimination against any producers from a common source of supply;

(4) the prevention of loss and inequities among royalty or mineral owners within the Kansas-Hugoton Gas Field.

(c) Petitioners named and designated as royalty or mineral owners in said petition are not producers, and by reason thereof are not interested parties under the laws of Kansas or the subsisting rules and regulations of Commission to the extent necessary to invoke the jurisdiction and authority of this Commission under the natural gas production and conservation laws. Said royalty and mineral owners are not vendors of gas under their respective lease contracts and arrangements and have no authority to contract for the sale of any such gas so produced, and by reason thereof there exists in said petitioners no interest sufficient as a matter of law either to justify or authorize their invoking the jurisdiction of Commission under existing conservation statutes.

[fol. 49] (d) Increasing the price of natural gas in said field under the facts and circumstances currently existing therein would automatically force an increase in the price of natural gas in the ultimate consumers thereof in Kansas and other states, obstruct and impede officials in other states and their respective jurisdictions in fixing rates for the local distribution of gas therein in derrogation of the rights of such states under the Tenth Amendment and other applicable provisions of the Constitution of the United States, not for the purpose of conservation or the prevention of waste of natural gas in said field, the protection of the public interest therein, or the correlative rights of producers and mineral and royalty owners in said field as determined to be authorized by the Supreme Court of Kansas, but for the exclusive pecuniary profit and benefit and gain of a selected segment of Kansas gas producers and mineral and royalty owners in said field.

(e) Increasing the price of natural gas in said field under the facts and circumstances currently existing therein would:

(1) impede and impair the obligation of protestant's subsisting gas purchase contracts in violation of

Section 10, Article I, of the United States Constitution;

(2) cast a burden on, impede, impair and discriminate against interstate commerce and the interstate operations of protestant in violation of the commerce clause of the Federal Constitution (Section VIII, Article I, United States Constitution);

(3) take the property of and the contract rights of protestant in subsisting gas purchase contracts without due process of law and in violation of the Four-
[fol. 50] teenth Amendment to the Constitution of the United States and Section 18 of the Bill of Rights of the Kansas Constitution;

(4) deny protestant the equal protection of the law in violation of the Fourteenth Amendment to the Constitution of the United States and Section 1 of the Bill of Rights of the Kansas Constitution;

(5) discriminate in favor of petitioners as citizens of Kansas and against protestant as a citizen of Delaware with respect to the purchase and enjoyment of property in violation of Section 17 of the Bill of Rights of the Kansas Constitution and the Fourteenth Amendment to the United States Constitution;

(6) impede and impair the obligations of the subsisting Interstate Compact to Conserve Oil and Gas, particularly Article V thereof, consented to by the Congress of the United States and adopted and ratified by the Legislature of the State of Kansas, which Compact constitutes a contract under Section 10, Article I, of the United States Constitution;

(7) discriminate in favor of the Kansas-Hugoton Gas Field as a common source of supply of natural gas and the producers and royalty and mineral owners therein and against other gas fields in Kansas and producers and royalty and mineral owners therein in violation of the due process and equal protec-

tion clauses of the United States and Kansas Constitutions;

(8) violate and contravene existing Federal price stabilization laws and subsisting maximum price regulations promulgated thereunder.

(f) Under the facts and circumstances currently existing in said Kansas-Hugoton Field and operations of prot- [fol. 51] estant therein, Commission has no jurisdiction or authority, either under application of petitioners or otherwise, to fix or determine either a minimum or other price for natural gas produced in or from said Kansas-Hugoton Field.

WHEREFORE, premises considered, protestant prays that said petition and the relief requested therein be denied and that these proceedings with respect to fixing either a minimum or other price for natural gas be dismissed.

GAS PRICE FIXING ORDER OF CORPORATION COMMISSION—December 2, 1953

Now on this 2nd day of December, 1953, the above-entitled matter comes before the Commission for further consideration and final disposition. The Commission, having examined the petition, files and record, and being fully advised in the premises, finds:

1. That the petition herein was filed by the Southwest Kansas Royalty Owners Association, a non-profit corporation, and certain individuals who are the owners of minerals in place or royalty interests in the Hugoton Gas Field, and that it is a petition for a new minimum wellhead price in said field of 14 cents per M.c.f. on a pressure basis of 16.4 pounds per square inch or in the alternative not less than 12 cents per M.c.f. measured on a pressure basis of 14.65 pounds per square inch.

2. That after due notice a public hearing was scheduled at the Allis Hotel, Wichita, Kansas, on September 26, 1952, at which time on motion of certain intervenors the matter

was continued to October 20, 1952, in Topeka, and that hearings were held thereon at Topeka on October 20, 21, [fol. 52] 22 and 23, 1952, December 15, 16, 17, 18 and 19, 1952, and January 14, 15 and 16, 1953.

3. That appearances were entered on behalf of the following: Southwest Kansas Royalty Owners Association and certain individual petitioners by Howard T. Fleeson, Dale M. Stucky, both of Wichita, and A. E. Kraemer, Hugoton, their attorneys; Northern Natural Gas Company by its attorneys Lawrence I. Shaw, Omaha, Nebraska, and Mark Adams, Wichita; Panhandle Eastern Pipe Line Company by its attorneys Edward H. Lange, Kansas City, Missouri, Louis R. Gates, Kansas City, Kansas, and Mark Adams, Wichita; Cities Service Gas Company by its attorneys O. R. Stites, Sr., and Joe Rolston, both of Oklahoma City, Oklahoma, Mark Adams, Wichita, and O. R. Stites, Jr., of Topeka; Kansas-Nebraska Natural Gas Company by its attorneys James Conway, Hastings, Nebraska, and M. F. Cosgrove, Topeka; Kansas-Colorado Utilities by its attorney Harold Bolton, Abilene. Other appearances include Consumers Cooperative Association, *et al.* by their attorney Phillip Dergeance, Lawrence; Lehigh Portland Cement Company by its attorney Frederick G. Apt, of Iola, and R. F. Jones; Coleman Company of Wichita by A. A. Knapp; the Office of Price Stabilization by its attorney Frank Theis of Arkansas City; the Eastern Kansas Gas Company of Iola, by J. H. Page and John McNally, both of Iola; Kansas Association of Municipal Utilities by its attorney Charles W. Lower, Kansas City, Kansas. That the following attorneys appeared on behalf of cities of Kansas as their respective city attorneys: James W. Wallace, Scott City; C. J. Brenneisen, Kansas City, Kansas; O. C. Jordan, Beloit; Casey Jones, Hill City; Corwin Spencer, Oakley; [fol. 53] H. D. Oelschlaeger, Plainville; Max Jones, Goodland; Sam W. G. Lowe, Colby; F. A. Sloan, Hoxie; Charles Stough, Lawrence, and Fred W. Aley, Wichita; that James A. McClure, Robert L. Webb, Ralph W. Oman, all of Topeka, and Jerome M. Joffee of Kansas City, Missouri [since deceased], appeared, representing a group of protesting cities. Jay Kyle, General Counsel and R. C. Wood-

ward, Special Counsel, appeared for the Commission and the public generally. That the Commission has jurisdiction of the subject matter and of the parties.

4. That since the public hearings referred to in Finding No. 2, the Commission entered an order on May 20, 1953, in its Docket No. 34,780-C (C-1825) changing the definition of "Gas, Cubic Foot," as defined by Commission Rule 82-2-201 adopted December 24, 1947, and on file with the Revisor of Statutes pursuant to Laws 1947, Chapter 440. That said order made specific findings relating to the obsolescence of its former rule relating to "Gas, Cubic Foot," which was statewide in its application, and as a result thereof adopted a new definition of "Gas, Cubic Foot," pursuant to its statutory authority (G. S. 1949, Chapter 55, Article 7, as amended). That said definition applies to each and every gas field in the State of Kansas except those wells specifically prohibited from regulation by the proviso in G. S. 1949, 55-703, and applies to all withdrawals of gas in the State of Kansas since July 1, 1953, 12:01 a.m.; said rule as amended is currently on file with the Revisor of Statutes in accordance with G. S. 1949, 77-405 *et seq.*

5. That in Docket No. 35,154-C (C-1868) on February 18, 1949, the Commission promulgated an Interim Order, in [fol. 54] which findings included *inter alia* that in the interest of conservation the fair and reasonable minimum price of natural gas at the wellhead in the Hugoton Field should be eight cents (8¢) per M.c.f., and that all takers of gas from said field would attribute thereto for purposes of payments to producers, landowners, lease owners and royalty owners, the fair and reasonable minimum price of eight cents (8¢) per M.c.f. at the wellhead until further order of the Commission in the investigation instituted by it in Docket No. C-164.

6. That subsequent to the Interim Order dated February 18, 1949, Kansas-Nebraska Natural Gas Company and Northern Natural Gas Company filed applications for judicial reviews thereof in the District Court of Finney County, Kansas, under the provisions of the Laws of 1945,

Chapter 233, Section 9; that likewise, under the same authority, Panhandle Eastern Pipe Line Company brought a similar action in the District Court of Seward County, Kansas; and that Cities Service Gas Company filed a complaint against the Commission in the United States District Court for the District of Kansas, which subsequently was dismissed by that company. The three cases in the state courts were consolidated for hearing before the District Court of Finney County sitting both in the capacity of Judge of Finney County District Court and Judge *pro tem* of Seward County District Court. From adverse decisions in the district courts, all three takers of gas (Kansas-Nebraska, Northern and Panhandle) took appeals to the Supreme Court of Kansas, which upheld the district courts and sustained the Commission's authority to establish the minimum wellhead price of eight cents (8¢) per M.c.f. [fol. 55] (*Kansas-Nebraska Natural Gas Co.* v. *State Corporation Commission*, 169 Kan. 722). The three appellants subsequently filed motions for rehearing which were denied by the Supreme Court, (*Kansas-Nebraska Natural Gas Co.* v. *State Corporation Com.*, 170 Kan. 341). Following the two Supreme Court decisions just referred to, the Commission in the original docket by appropriate order dated February 21, 1951, promulgated an implementing order to its Interim Order and later entered an Order *Nunc Pro Tunc* on March 8, 1951, in said docket, to correct an error in its order of February 21, 1951. The Commission, at the time it entered its Interim Order of February 19, 1949, wrote a Memorandum Opinion under date of February 23, 1949, which related some of the history of the field, the powers of the Commission and generally the Commission's jurisdiction over the conservation of this irreplaceable natural resource and the production of gas in the Hugoton Field of Kansas. It would be unnecessarily repetitious to set out here the contents of that Memorandum Opinion.

7. That the proceeding in this docket is not a rate matter.

8. The Commission as of this date has entered in this docket a Memorandum Opinion which should be incorporated herein and made a part of this order by reference.

9. That because of the voluminous record and the widespread interest in the subject matter, not only in the interest of conservation and protection of correlative rights but also because of the possible effect the decision herein may have on certain classes of rates to consumers, we have felt impelled to re-examine the question of a reasonable [fol. 56] minimum wellhead price structure in the Kansas-Hugoton Gas Field which is now furnishing gas to more than one-fourth of the states of the Union.

10. It is not disclosed by the record before us that the eight-cent (8¢) price adopted by the Commission through its Interim Order of February 18, 1949, and now in effect, has had any adverse effect upon marketing or marketing conditions in the field or that it has adversely affected ultimate domestic consumer rates. Promulgation of a minimum price is a paramount factor in conservation and the protection of correlative rights. Having a low value in the stages of production, gas can be used uneconomically and wastefully because of the low commercial price being paid at the wellhead. That an important source of gas for the economy of not only Kansas but many other states is the Kansas portion of the Hugoton Gas Field; that gas is not now competitive with other fuels, namely, oil and coal; that the cheapness of gas is conducive to waste as prohibited by statute.

11. That conditions exist which, coupled with known differentials in transportation costs, adversely affect correlative rights.

12. Public records of this Commission clearly indicate that since February, 1948, the number of wells in the field has more than tripled, and that ultimate development of the field is rapidly approaching. All of this leads to the inevitable conclusion that withdrawals from the field are nearing their peak, and also carries the warning that practices of conservation must be heightened if the public is to enjoy the fullest recovery of gas from the Hugoton Field.

[fol. 57] 13. A true stimulant to conservation is price, and a low price is conducive to waste which is specifically prohibited by G. S. 1949, 55-701. Experience in the Hugoton

Field since 1949, the year of the first minimum wellhead order, has shown that a floor price in the interest of conservation supports the concept of conservation by economic uses and the avoidance of waste. It is apparent this can be best accomplished through a realistic minimum field price for this precious fuel.

14. Since price is a prime factor in avoiding various types of waste, strengthening that factor strengthens conservation in the Hugoton Field.

15. The minimum price of eight cents (8¢) per M.c.f., at the wellhead adopted by the Interim Order of February 18, 1949, is not now an effective conservation measure for the various reasons amplified in the Memorandum Opinion.

16. That a fair and reasonable minimum wellhead price to be attributed to all gas taken from the field, except gas used for lease operations, is in the public interest and welfare, encourages conservation, furthers the avoidance of discrimination and helps to promote orderly development and exploration.

17. That currently a fair and reasonable minimum price for gas at the wellhead in the Hugoton Field is eleven cents (11¢) per M.c.f. (14.65 pounds p.s.i.a.).

18. That all persons, firms or corporations which take gas or cause gas to be taken from the Kansas-Hugoton Gas Field on and after January 1, 1954, 12:01 a.m., should be [fol. 58] required, as a condition precedent for withdrawal from the common source of supply, to pay or attribute to all gas taken, except gas for the operations of leases, for all purposes including payments to producers, landowners, lease owners and royalty owners, the fair and reasonable minimum price of not less than eleven cents (11¢) per M.c.f. (14.65 pounds p.s.i.a.) at the wellhead.

19. That the petition herein should not be granted on either basis requested.

It Is, Therefore, by the Commission Ordered: That the Memorandum Opinion entered herein this date be, and the same is, hereby incorporated and made a part of this order by reference.

IT IS FURTHER BY THE COMMISSION ORDERED: That the petition herein be, and the same is, hereby denied.

IT IS FURTHER BY THE COMMISSION ORDERED: That all persons, firms or corporations which take gas or cause gas to be taken from the Hugoton Gas Field in Kansas on and after January 1, 1954, 12:01 a.m., shall, as a condition precedent for withdrawal from the common source of supply, pay or attribute to all gas taken, except gas for the operations of leases, for all purposes including payments to producers, landowners, lease owners and royalty owners, the fair and reasonable minimum price of not less than eleven cents (11¢) per M.c.f. (14.65 pounds p.s.i.a.) at the wellhead until further order or orders of this Commission.

The Commission retains jurisdiction of the subject matter and the parties for the purpose of entering such further order or orders, and promulgating and implementing such [fol. 59] further rules and regulations as from time to time it may deem proper.

BY THE COMMISSION IT IS SO ORDERED.

MEMORANDUM OPINION

BY THE COMMISSION:

Our position respecting the attribution of a minimum wellhead price for natural gas from a common reservoir is so patent that we do not propose here to elaborate extensively on the subject matter. In the Memorandum Opinion entered on February 23, 1949, in Docket No. 35,154-C (C-1868), we set out our views at length when Kansas was pioneering in adoption of a minimum wellhead price as a conservation measure for an important irreplaceable natural resource.

That the State has a right, in the interest of conservation, to fix a minimum wellhead price for natural gas in a common source of supply, if the evidence justifies the conclusion that such an order is necessary to prevent waste and protect correlative rights, is now settled law (*Kansas-Nebraska Natural Gas Co.* v. *State Corporation Commis-*

sion, 169 Kan. 722, 222 P.2d 704, and 170 Kan. 341, 225 P.2d 1054; *Phillips Petroleum Company* v. *State of Oklahoma*, 340 U.S. 190, 71 S. Ct. 221, 95 L. Ed. 204; *Cities Service Gas Company* v. *Peerless Oil and Gas Co.*, 340 U.S. 179, 71 S. Ct. 215, 95 L. Ed. 190).

In the docket to which we have here referred after protracted hearings we promulgated an interim order on [fol. 60] February 18, 1949, establishing a minimum wellhead price of eight cents (8¢) per M.c.f. for gas in the Kansas portion of the Hugoton Gas Field. The eight-cent (8¢) figure prevails at this writing. In the Memorandum Opinion we said:

> "The evidence offered at the hearings in this proceeding is not sufficient to permit us to determine finally what a reasonable and fair minimum fixed price at the wellhead should be in the field."

By separate order on the same day we instituted our own investigation of prices being paid at the wellhead in the field.

By order of May 2, 1951, Docket 35,154-C (C-1868) and Docket C-164, the Commission closed that investigation assigning as reasons therefor in substance: that because of the long lapse of time resulting from litigation and the changes, meanwhile, in field conditions and development, and in marketing and conservation practices, much of the evidence at the hearing had become obsolete, lacked continuity and had become of questionable significance in determining a reasonable minimum price. We, however, said in that order:

> "If upon further consideration * * * it is deemed appropriate in the interest of conservation * * * to explore current factors and prevailing trends regarded as necessary in the determination of a minimum value other than 8 cents * * * the institution of a new investigation would be more feasible, beneficial and practical * * *."

The Commission never instituted a new investigation on its own motion, but it did use the instant docket for the [fol. 61] purpose of making a very comprehensive and

exhaustive study of the entire matter, allowing all persons having any possible interest in the matter, to present their evidence. Certain interests attempted to have the instant hearing limited to the period of time since March 1, 1949, the effective date of the Interim Order. The Commission, however, refused to so limit it and conducted the hearing as if the whole matter were being considered *ab initio.*

The history of these proceedings forcibly leads to the conclusion that we used in our Interim Order the very least possible minimum price then determinable and intimated that further study could well demonstrate that a higher minimum price was reasonable and necessary.

To disregard the preponderance of evidence before us now would in effect be finding that the eight-cent minimum price has accomplished in the prevention of waste all that any minimum price could accomplish and that no waste, physical, economic or other is now occurring in the field which any minimum price could prevent.

Before us is an application requesting a new minimum wellhead price for natural gas in the Kansas-Hugoton Gas Field of fourteen cents (14¢) per M.c.f. on a pressure basis of 16.4 pounds p.s.i.a. or in the alternative not less than twelve cents (12¢) per M.c.f. measured on a pressure basis of 14.65 pounds p.s.i.a.

Prior to the filing of the application on August 18, 1952, we had been giving informal consideration and study as to whether or not the adopted minimum wellhead price of eight cents (8¢) per M.c.f. in the field was efficacious. We have reached the conclusion that it is not.

[fol. 62] The vastness and importance of the Hugoton Gas Field to Kansas requires our every-day attention. It must be remembered that the field, approximately sixty-five per cent of which underlies nine southwestern Kansas counties, also extends into the states of Oklahoma and Texas. In February, 1948, the public records of this Commission disclose there were 985 wells in the Kansas portion of the field, whereas in November, 1953, there were 3,065, an increase of more than 300%, with more wells drilling. It is readily seen that there are ever-changing conditions in the field and conditions that exist now affecting conservation which were not conceivably involved in the hearings in

1948 relative to Docket No. 35,154-C (C-1868). With the greater number of wells in the field today, the public interest becomes all the more pronounced in the conservation of this precious fuel. We therefore are aware at all times of the realistic circumstances through which gas is withdrawn from the producing horizons of that field.

In this docket we have held extensive public hearings consuming twelve days and one night session. The transcript of these proceedings covers 2,284 pages and seventy exhibits were offered. The applicants produced an abundance of testimony as did certain of the protestants which included pipeline companies and representatives of gas consumers in the state. We have painstakingly reviewed the transcript of all the testimony and have arrived at the conclusion that the preponderance of evidence is that the prevailing minimum wellhead price in the Hugoton Gas Field is obsolete and that we should adopt a new wellhead price in the interest of protecting the public from dissipation of this irreplaceable natural resource, to carry [fol. 63] out our statutory duties in the avoidance of waste and to protect correlative rights.

In this Memorandum Opinion, as we indicated, we do not intend to write a dissertation on the subject of minimum wellhead prices as conditions precedent for withdrawing gas from a common source of supply, but there are a few inescapable deductions that cannot be refuted which we wish to observe in passing.

The first deduction remains today, as was pointed out in our Memorandum Opinion of February 23, 1949, that gas is not truly competitive with the two other main fuels; namely, coal and oil. The cheapest and most efficient of the three fuels, gas is more convenient in more uses to the consumer than are the others. This is all borne out by the record. Gas is a commodity. Cheapness of a commodity is an avenue to ultimate waste. It is common knowledge that the records of every pipeline company and distributing company are replete with astonishing numbers of conversions from other fuels to natural gas where it is available. Thus if the minimum wellhead price of natural gas is permitted to remain too low, effectiveness in achieving its objective as a conservation measure is thwarted.

Second, it cannot be factually disputed that the Kansas portion of the Hugoton Gas Field is in closer proximity to the markets in the North, East and West; namely, Kansas, Colorado, Wyoming, Nebraska, South Dakota, Minnesota, Iowa, Missouri, Illinois, Indiana, Pennsylvania, Ohio and Michigan, than those portions lying in the other states which comprise the Hugoton Gas Field in its entirety. The essence of that fact is that the cost of the transportation of [fol. 64] gas to these markets from Kansas is less than from either Oklahoma or Texas. If the minimum wellhead price of gas is lower, less the differential in transportation and other items, there exists clearly a violation of correlative rights and the resultant discrimination is conducive to waste for apparent reasons. Anyone familiar with the Hugoton Gas Field knows that situation prevails today. If such a situation continues to exist, it is obvious as a matter of economics that it will lead to earlier depletion of the Kansas wells, thus violating correlative rights and making disproportionate withdrawals possible.

Gas nearer the markets should command a higher price. Northern Natural Gas Company, a protestant here and a large taker from the field, is now paying a much higher price for its Permian Basin (Texas and New Mexico) gas delivered to Skellytown, Texas; yet its markets are in Minnesota, Iowa, South Dakota, Nebraska and Kansas. (Less than 4% in Kansas.)

There is another observation that we wish to make. Certain of the protestants here have been under the impression that this was a rate case. That assumption is erroneous. Therefore, the testimony on behalf of these protestants is not germane to the issue of conservation. We conducted these proceedings as the gas conservation agency of the state under G. S. 1949, Chapter 55, Article 7, and not as the public regulatory body as provided by G. S. 1949, Chapter 66. Only one of the distributing companies in the state and three others which are both pipeline companies and distributing companies, participated in these proceedings. It is significant that neither of the two largest gas [fol. 65] distributing companies in Kansas and others assumed that this was a rate case.

It is true that this Commission, as a public regulatory body, has rate-making authority within the state of Kansas but does not possess nor seek to possess juridiction over rates for the sale of natural gas in interstate commerce. The theory pointing to the arguments in the record respecting rates must be dispelled. In adopting a minimum wellhead price for the Hugoton Gas Field in Kansas, we look exclusively to the interest of the public in conservation.

All the factors which supported the eight-cent (8¢) minimum price in 1949 will, in the light of further consideration, support a higher minimum now.

Some inequities were corrected by the Interim Order, but others still exist. Some purchasing companies, after the minimum eight-cent order voluntarily adjusted their prices, even on old contracts, somewhat above eight cents. Others did not. That eight cents is not now a reasonable minimum price is evidenced by the fact that practically all new contracts have been made at higher prices and many old contracts changed to more than eight cents.

Since the minimum eight-cent order in 1949, there has been a marked increase in the cost of development, an increase in the number of wells in the field, a change in the amount and nature of the demand for gas with an exceptionally great increase in the demand for space heating; additional pipelines have been built and new markets added.

It is an accepted fact that increase in storage fields has made pipeline companies less dependent on industrial [fol. 66] loads to maintain good load factors; consequently there is less reason for extremely low prices to industries. As an illustration of this factor, Cities Service Gas Company, currently the largest taker from the field, has developed underground storage facilities extensively in Kansas. A recent development is the Colony Gas Field in Anderson County, Docket No. 44,080-C (C-3217). One of its large distributing companies, Union Gas System, Inc., has pioneered in underground reservoirs in southeastern Kansas, and now employs such facilities to augment its normal pipeline withdrawals. Other pipeline takers have underground storage space beyond the borders of the state or are in the process of acquiring such facilities.

And too, increase in source cost (price) of gas has not kept pace with increase in source prices of other fuels because owners of land and producers of gas have no freedom of contract.

The field has now developed to the extent that there is not enough undedicated acreage to warrant any new pipelines and no reason to expect any advance in price by reason of competition.

The evidence disclosed that wellhead prices of gas have been increased in Ohio, Texas, New Mexico, West Virginia, Oklahoma, the Gulf Coast area, and practically all producing states in relatively unimportant small fields.

As has been noted, we adhere to our conclusions in the Memorandum Opinion of February 23, 1949, in all respects except it is our position after study and research that today, under the prevailing conditions, the eight-cent (8¢) [fol. 67] per M.c.f., minimum price adopted in 1949 is neither fair nor reasonable.

Finally, it is now fundamental and accepted that price is a dominant medium to conservation. We are not here fixing a price for gas in the field, a maximum price, a fair field price or a going price, but we are prescribing a minimum price for all gas, except for lease usage, of eleven cents (11¢) at the wellhead on a pressure base of 14.65 pounds p.s.i.a. *as a condition precedent for withdrawals from the common source of supply, in the interest of conservation.*

An appropriate order in conformance with the views heretofore expressed will be entered in this docket as of this day.

PETITION OF CITIES SERVICE GAS COMPANY FOR REHEARING

Comes now Cities Service Gas Company, a corporation, being a party to the above proceeding, and petitions this Honorable Commission that a rehearing be granted in the above entitled matter, and on such rehearing, the Order of the Commission dated December 2, 1953, effective January 1, 1954, wherein the Commission fixed a minimum price of not less than 11¢ per M.c.f. (14.65 pounds p.s.i.a.) for all

withdrawals of gas from the Hugoton Field from the common source of supply, except gas for operations of leases, together with the findings of the Commission contained in Memorandum Opinion, by reference made a part of the above Order, be set aside and held for naught, and in sup-
[fol. 68] port of this petition for rehearing, petitioner submits the following:

In entering its Order of December 2, 1953, and making the findings contained in Memorandum Opinion, which by reference is made a part of said Order, the Commission erred in the following particulars, to-wit:

1. By finding on pages 4 and 5 of its Memorandum Opinion:

> " • • • that the preponderance of evidence is that the prevailing minimum wellhead price in the Hugoton Gas Field is obsolete and that we should adopt a new wellhead price in the interest of protecting the public from dissipation of this irreplaceable natural resource, to carry out our statutory duties in the avoidance of waste and to protect correlative rights."

in that this finding is not only contrary to the evidence as shown by the record in this matter, but is not supported by any evidence contained therein, and is in direct violation of the statutory duties placed upon the Commission under the statutes of the State of Kansas.

2. By finding on page 5 of its Memorandum Opinion:

> "Cheapness of a commodity is an avenue to ultimate waste."

in that this finding is not only contrary to the evidence as shown by the record in this matter, but is not supported by any evidence contained therein, on the contrary, the record clearly disclosing that cheapness of natural gas encourages increased usage rather than waste, as shown by Commission's finding on page 5:

> [fol. 69] " • • • the records of every pipeline company and distributing company are replete with astonishing

numbers of conversions from other fuels to natural gas where it is available."

By this finding, the Commission has in effect found tnat all usage of natural gas is waste.

3. By finding on page 5 of its Memorandum Opinion:

"Thus if the minimum wellhead price of natural gas is permitted to remain too low, effectiveness in achieving its objective as a conservation measure is thwarted."

in that this finding is not only contrary to the evidence as shown by the record in this matter, but is not supported by any evidence contained therein, the record disclosing that price cannot be a factor in conservation until it reaches a point where it prevents usage for legitimate purposes as defined in the statutes.

4. By finding on page 6 of its Memorandum Opinion:

"If the minimum wellhead price of gas is lower, less the differential in transportation and other items, there exists clearly a violation of correlative rights and the resultant discrimination is conducive to waste for apparent reasons. (The Commission finds no reasons.) Anyone familiar with the Hugoton Gas Field knows that situation prevails today. If such a situation continues to exist, it is obvious as a matter of economics that it will lead to earlier depletion of the Kansas wells, thus violating correlative rights and making disproportionate withdrawals possible."

[fol. 70] in that this finding is not only contrary to the evidence as shown by the record in this matter, but is not supported by any evidence contained therein. This finding is further erroneous in that the matters stated therein are wholly immaterial to the fixing of a minimum wellhead price to prevent waste. The effect could only be to prevent usage. Correlative rights of producers in that portion of the Hugoton Field, being the only parties subject to the jurisdiction of this Commission, are in no way affected, the Commission having full control of these rights through its proration powers under the statutes of the State of Kansas.

5. By finding on page 6 of its Memorandum Opinión:

> "Gas nearer the markets should command a higher price. Northern Natural Gas Company, a protestant here and a large taker from the field, is now paying a much higher price for its Permian Basin (Texas and New Mexico) gas delivered to Skellytown, Texas; yet its markets are in Minnesota, Iowa, South Dakota, Nebraska and Kansas (Less than 4% in Kansas)."

in that this finding is not only contrary to the evidence as shown by the record in this matter, but is not supported by any evidence contained therein. This finding is further erroneous and the same is wholly immaterial in the matter of fixing a minimum price to prevent waste. It could only be material in case the Commission had power to fix prices for natural gas in the field, which the opinion specifically declares is not the purpose of the Commission.

6. By finding on page 7 of its Memorandum Opinion:

> "All the factors which supported the eight-cent (8¢) minimum price in 1949 will, in the light of further consideration, support a higher minimum now."

[fol. 71] in that this finding is not only contrary to the evidence as shown by the record in this matter, but is not supported by any evidence contained therein.

7. By finding on page 7 of its Memorandum Opinion:

> "That eight cents is not now a reasonable minimum price is evidenced by the fact that practically all new contracts have been made at higher prices and many old contracts changed to more than eight cents."

in that this finding is not only contrary to the evidence as shown by the record in this matter, but is not supported by any evidence contained therein. This finding is further erroneous and the same is wholly immaterial in the matter of fixing a minimum price to prevent waste. It could only be material in case the Commission had power to fix prices for natural gas in the field, which the opinion specifically declares is not the purpose of the Commission.

8. By finding on page 8 of its Memorandum Opinion:

> "Since the minimum eight-cent order in 1949, there has been a marked increase in the cost of development, an increase in the number of wells in the field, a change in the amount and nature of the demand for gas with an exceptionally great increase in the demand for space heating; additional pipelines have been built and new markets added."

This finding is erroneous for the reason that same is wholly immaterial in the matter of fixing a minimum wellhead price to prevent waste. All elements contained therein could be material only as to fixing a price for gas in the field, which the Commission states in its findings it is not attempting to do and under the statutes of the State of [fol. 72] Kansas has no power to do, or in a case where the Commission was attempting to curtail legitimate usage of gas.

9. By finding on page 8 of its Memorandum Opinion:

> "It is an accepted fact that increase in storage fields has made pipeline companies less dependent on industrial loads to maintain good load factors; consequently there is less reason for extremely low prices to industries."

in that this finding is not only contrary to the evidence as shown by the record in this matter, but is not supported by any evidence contained therein. It is further erroneous for the reason that such finding is immaterial in the matter of fixing a minimum price to prevent waste and would only be material in a case in which the Commission was attempting to fix a price for gas in the field, which the Commission states it is not, or in a case where the Commission was attempting to curtail legitimate use of such gas.

10. By finding on page 8 of its Memorandum Opinion:

> "And too, increase in source cost (price) of gas has not kept pace with increase in source prices of other fuels because owners of land and producers of gas have no freedom of contract."

in that this finding is not only contrary to the evidence as shown by the record in this matter, but is not supported by

any evidence contained therein. It is further erroneous for the reason that such finding is immaterial in the matter of fixing a minimum price to prevent waste and would only be material in a case in which the Commission was [fol. 73] attempting to fix a price for gas in the field, which the Commission states it is not.

11. By finding on page 8 of its Memorandum Opinion:

> "The field has now developed to the extent that there is not enough undedicated acreage to warrant any new pipelines and no reason to expect any advance in price by reason of competition."

in that this finding is not only contrary to the evidence as shown by the record in this matter, but is not supported by any evidence contained therein. It is further erroneous for the reason that such finding is immaterial in the matter of fixing a minimum price to prevent waste and would only be material in a case in which the Commission was attempting to fix a price for gas in the field, which the Commission states it is not.

12. By finding on page 9 of its Memorandum Opinion:

> "The evidence disclosed that wellhead prices of gas have been increased in Ohio, Texas, New Mexico, West Virginia, Oklahoma, the Gulf Coast area, and practically all producing states and in relatively unimportant small fields."

in that this finding is not only contrary to the evidence as shown by the record in this matter, but is not supported by any evidence contained therein. It is further erroneous for the reason that such finding is immaterial in the matter of fixing a minimum price to prevent waste and would only be material in a case in which the Commission was attempting to fix a price for gas in the field, which the Commission states it is not.

[fol. 74] 13. By finding on page 9 of its Memorandum Opinion:

> "* * * under the prevailing conditions, the eight-cent (8¢) per M.c.f. minimum price adopted in 1949 is neither fair nor reasonable."

in that this finding is not only contrary to the evidence as shown by the record in this matter, but is not supported by any evidence contained therein. It is further erroneous for the reason that such finding is immaterial in the matter of fixing a minimum price to prevent waste and would only be material in a case in which the Commission was attempting to fix a price for gas in the field, which the Commission states it is not.

14. By finding on page 9 of its Memorandum Opinion:

> "Finally, it is now fundamental and accepted that price is a dominant medium to conservation. We are not here fixing a price for gas in the field, a maximum price, a fair field price or a going price, but we are prescribing a minimum price for all gas, except for lease usage, of eleven cents (11¢) at the wellhead on a pressure base of 14.65 pounds p.s.i.a *as a condition precedent for withdrawals from the common source of supply, in the interest of conservation.*"

in that this finding is not only contrary to the evidence as shown by the record in this matter, but is not supported by any evidence contained therein. It is further erroneous for the reason that it fixes no measure for the heating quality of such gas and in many instances where the heating quality of such gas is low, the minimum price fixed becomes a maximum price far in excess of the value of such gas, thereby creating discrimination in favor of the [fol. 75] producers of gas having a low b.t.u. content against producers of gas having a high b.t.u. content. Also, the finding discriminates in favor of lease usage against other legitimate usage.

15. By finding in paragraph 10 on page 6 of its Order:

> "It is not disclosed by the record before us that the eight-cent (8¢) price adopted by the Commission through its Interim Order of February 18, 1949, and now in effect, has had any adverse effect upon marketing or marketing conditions in the field or that it has adversely affected ultimate domestic consumer rates. Promulgation of a minimum price is a paramount factor in conservation and the protection of correla-

tive rights. Having a low value in the stages of production, gas can be used uneconomically and wastefully because of the low commercial price being paid at the wellhead. That an important source of gas for the economy of not only Kansas but many other states is the Kansas portion of the Hugoton Gas Field; that gas is not now competitive with other fuels, namely, oil and coal; that the cheapness of gas is conducive to waste as prohibited by statute."

in that this finding is not only contrary to the evidence as shown by the record in this matter, but is not supported by any evidence contained therein. It is further erroneous for the reason that under all of the evidence, no waste, economic or otherwise, has been proven, and an increase in minimum price has no relation to conservation or the protection of correlative rights, and no evidence is contained in the record proving or tending to prove that an increase in the minimum price of gas will prevent any economic waste in its usage unless fixed at such price as [fol. 76] will prohibit legitimate usage as defined in the statutes of the State of Kansas.

16. By finding in paragraph 11 on page 6 of its Order:

"That conditions exist which, coupled with known differentials in transportation costs, adversely affect correlative rights."

in that this finding is not only contrary to the evidence as shown by the record in this matter, but is not supported by any evidence contained therein.

17. By finding in paragraph 12 on page 6 of its Order:

"Public records of this Commission clearly indicate that since February, 1948, the number of wells in the field has more than tripled, and that ultimate development of the field is rapidly approaching. All of this leads to the inevitable conclusion that withdrawals from the field are nearing their peak, and also carries the warning that practices of conservation must be heightened if the public is to enjoy the fullest recovery of gas from the Hugoton Field."

in that this finding is not only contrary to the evidence as shown by the record in this matter, but is not supported by any evidence contained therein. It is further erroneous in that under the evidence waste, as defined by the statutes of the State of Kansas, economic or otherwise, does not exist in the Hugoton Field; that the Commission, through its proration powers, has full authority to fix proper practices to insure maximum recovery of gas in the Hugoton Field.

[fol. 77] 18. By finding in paragraph 13 on page 7 of its Order:

> "A true stimulant to conservation is price, and a low price is conducive to waste which is specifically prohibited by G. S. 1949, 55-701. Experience in the Hugoton Field since 1949, the year of the first minimum wellhead order, has shown that a floor price in the interest of conservation supports the concept of conservation by economic uses and the avoidance of waste. It is apparent this can be best accomplished through a realistic minimum field price for this precious fuel."

in that this finding is not only contrary to the evidence as shown by the record in this matter, but is not supported by any evidence contained therein. It is further erroneous in that the record shows no waste specifically prohibited by 55-701, G.S. 1949. The record discloses no waste of any kind prevented by the minimum price order issued by the Commission in 1949 applying to the Hugoton Field.

19. By finding in paragraph 14 on page 7 of its Order:

> "Since price is a prime factor in avoiding various types of waste, strengthening that factor strengthens conservation in the Hugoton Field."

in that this finding is not only contrary to the evidence as shown by the record in this matter, but is not supported by any evidence contained therein.

20. By finding in paragraph 15 on page 7 of its Order:

> "The minimum price of eight cents (8¢) per M.c.f. at the wellhead adopted by the Interim Order of Feb-

ruary 18, 1949, is not now an effective conservation measure for the various reasons amplified in the Memorandum Opinion."

[fol. 78] in that this finding is not only contrary to the evidence as shown by the record in this matter, but is not supported by any evidence contained therein.

21. By finding in paragraph 16 on page 7 of its Order:

"That a fair and reasonable minimum wellhead price to be attributed to all gas taken from the field, except gas used for lease operations, is in the public interest and welfare, encourages conservation, furthers the avoidance of discrimination and helps to promote orderly development and exploration."

in that this finding is not only contrary to the evidence as shown by the record in this matter, but is not supported by any evidence contained therein. It is further erroneous for the reason that by excepting gas used for lease operations, discrimination is created against other legitimate uses, and it will have only the effect of increasing the price of gas for legitimate uses to the public, and it is, therefore, directly against the public interest.

22. By finding in paragraph 17 on page 7 of its Order:

"That currently a fair and reasonable minimum price for gas at the wellhead in the Hugoton Field is eleven cents (11¢) per M.c.f. (14.65 pounds p.s.i.a.)."

in that this finding is not only contrary to the evidence as shown by the record in this matter, but is not supported by any evidence contained therein.

23. By finding in paragraph 18 on page 8 of its Order:

"That all persons, firms or corporations which take gas or cause gas to be taken from the Kansas Hugoton Gas Field on and after January 1, 1954, 12:01 a.m., should be required, as a condition precedent for with-
[fol. 79] drawal from the common source of supply, to pay or attribute to all gas taken, except gas for the operations of leases, for all purposes including payments to producers, landowners, lease owners and royalty

owners, the fair and reasonable minimum price of not less than eleven cents (11¢) per M.c.f. (14.65 pounds p.s.i.a.) at the wellhead."

in that this finding is not only contrary to the evidence as shown by the record in this matter, but is not supported by any evidence contained therein.

24. By entering its order on page 8 of said Order, as follows:

"It Is Further by the Commission Ordered: That all persons, firms or corporations which take gas or cause gas to be taken from the Hugoton Gas Field in Kansas on and after January 1, 1954, 12:01 a.m., shall, as a condition precedent for withdrawal from the common source of supply, pay or attribute to all gas taken, except gas for the operations of leases, for all purposes including payments to producers, landowners, lease owners and royalty owners, the fair and reasonable minimum price of not less than eleven cents (11¢) per M.c.f. (14.65 pounds p.s.i.a.) at the wellhead until further order or orders of this Commission."

in that this order is not only contrary to the evidence as shown by the record in this matter, but is not supported by any evidence contained therein, said order being further erroneous for the reason that it excepts gas for operations of leases, thereby discriminating against the legitimate use of gas for other purposes. It is further erroneous for the reason that it makes no differential between the minimum [fol. 80] price for gas of a low heating value and the minimum price for gas of a high heating value, thereby creating discrimination in favor of the producers of gas of low b.t.u. value as against producers of gas having a high b.t.u. value. It is further erroneous for the reason that it establishes an arbitrary pressure of 14.65 pounds p.s.i.a as a basis for measuring natural gas, which can have no possible relation to the prevention of waste, but substantially increases the price of such gas and impairs the obligations of many of petitioner's subsisting gas purchase contracts, in violation of the contract clause of the Fourteenth Amendment to the Constitution of the United States.

In further support of the above and foregoing, petitioner submits the following:

A. That the evidence in the record is not sufficient as a matter of law, as decided by the Supreme Court of Kansas in *Kansas-Nebraska Natural Gas Co.* v. *State Corporation Commission*, 169 Kan. 722, 222 P. (2d) 704, and 170 Kan. 341, 222 P.(2d) 1054, to justify the issuance of the order of the Commission of December 2, 1953, because such evidence does not prove or tend to prove that it was necessary for the Commission to issue such order to prevent waste or protect correlative rights as required by said decision.

B. Commission has failed to make any finding in said order that it is necessary to issue such an order to prevent waste and protect correlative rights as required by the decision of the Kansas Supreme Court cited in ground A hereof.

[fol. 81] C. As applied to the operations of petitioner, as evidenced by the record, there exists in the Commission no jurisdiction or authority to promulgate, issue or enter the said order.

D. That the Commission's order excepts from the operation of the minimum price fixed by said order gas for the operation of leases, and by reason thereof, such order unlawfully discriminates in favor of gas for the operation of leases and the owners of such gas and against gas used for other lawful purposes authorized by the statute and the owners thereof, in violation of the Fourteenth Amendment to the Constitution of the United States and Section 17 of Article 2 of the Constitution of the State of Kansas.

E. Commission by its said order denied the petition of applicants filed herein and that by reason thereof Commission had no authority to issue the order in question herein.

F. Commission's Basic Proration Order for the Hugoton Field, particularly paragraphs (n) and (o) of said order, provides for market demand hearing for said field; that pursuant to the provisions of said Basic Proration

Order, Commission issues each month its orders covering each allowable period; that Commission each and every month, since March 1, 1949, to date of the issuance of the present minimum price order, has made and issued monthly proration orders; that in each and every order so issued, the Commission specifically found, based upon testimony duly introduced in its market demand hearings, that the [fol. 82] amount of gas allowed by Commission to be produced from the Hugoton Field could be produced and marketed without waste, as defined and contemplated by the Kansas statute. G. S. 1949, 55-606, provides that any person aggrieved by such a proration order may have the same reviewed in the manner authorized by the provisions of said section of said statute. None of such proration orders so issued as aforesaid has been questioned or reviewed as provided by such statute. The Supreme Court of this state decided, in *Continental Investment Corporation* v. *State Corporation Commission*, 156 Kan. 858, that where such proration orders had not been questioned or reviewed as provided by said statute, said orders became final and binding on all parties, including Commission, until reversed, modified, vacated or set aside; that same could not be collaterally attacked or impeached.

That the evidence introduced before the Commission in the instant hearing, preceding the issuance of its order here in question, purported to and did attempt to impeach and collaterally attack such monthly proration orders by endeavoring to show the Commission of waste of gas in said Hugoton Field; that by reason of the foregoing, there is no competent evidence in the record to show any waste of gas in said Hugoton Field between March 1, 1949, and the date of the issuance of the Commission's order; that by reason of the findings specifically made in each of said monthly proration orders to the effect that the gas allowed to be produced and marketed from said field could be produced and marketed without waste, such orders cannot be collaterally attacked or impeached and are final and [fol. 83] binding upon Commission and all parties to these proceedings, and the uncontradictable evidence before such Commission during the period in question conclusively shows that the gas produced and marketed from said field

since March 1, 1949, was produced and marketed without waste as defined or contemplated by the Kansas statute.

G. Commission's subsisting rule 82-2-101 provides, among other things:

> "Correlative rights shall mean that each owner or producer in a common source of supply is privileged to produce therefrom (which includes the Hugoton Gas Field) only in such manner or amount as not to injure the reservoir to the detriment of others or to take an undue proportion of the oil or gas obtainable therefrom, or to cause undue drainage between developed leases" (Parenthesis ours).

That such definition of correlative rights, as defined by this Commission, is binding and conclusive on all parties to these proceedings, including Commission; that by reason of such definition, there is absolutely no evidence in the record which discloses that the correlative rights of owners or producers in the Hugoton Field were being violated or were suffering detriment of any kind or character; that under the decision of the Supreme Court in *Kansas-Nebraska Natural Gas Co.* v. *State Corporation Commission, supra,* there is no competent or substantial evidence to support the issuance of Commission's order, and the evidence in the record under said decision is not sufficient to authorize or empower Commission to issue such minimum gas price order.

[fol. 84] H. Based upon the operations of petitioner, as shown by the undisputed evidence in the record, Commission's order, as drawn, is invalid, illegal and void for the following reasons:

(a) Such order is clearly a price fixing order and has no reasonable relationship to waste, protection of correlative rights or the conservation of natural gas.

(b) It casts a burden on, impedes, impairs and discriminates against interstate commerce in violation of the commerce clause of the Constitution of the United States.

(c) It denies petitioner due process of law and the equal protection of the law, in violation of the Fourteenth

Amendment to the Constitution of the United States and Section 17 of Article 2 of the Constitution of the State of Kansas.

(d) It violates the subsisting provisions of Article V of the "Interstate Compact to Conserve Oil and Gas" in that said order purports to limit the production of gas in said Hugoton Field for the purpose of stabilizing or fixing the price thereof.

I. The order of the Commission fail[illegible]ve any recognition to or take into consideration th[illegible]content of the gas produced and marketed from the [illegible]ansas Hugoton Field. The evidence in the record shows that the b.t.u. content of the Kansas Hugoton Field varies from approximately 730 b.t.u. to 1030 b.t.u. The failure of the Commission to take the b.t.u. content into consideration, or at least to set a minimum thereof, results in discrimination in favor of the producers and royalty owners from the low [fol. 85] b.t.u. area of the field and against producers and royalty owners from the higher b.t.u. area of the field and purchasers from the low b.t.u. area; that the said order should be set aside and held for naught because of the facts herein stated concerning the heat value of the different gas in the field, and further because the same is unlawful, illegal, discriminatory and void.

J. The fact that Oklahoma in 1947 issued the first minimum gas price order fixing the price at 7¢ per M.c.f. (14.65 pounds p.s.i.a.) in a portion of this same Hugoton Field, followed by the first Kansas minimum gas price order in 1949 fixing an 8¢ per M.c.f. minimum price (16.4 pounds p.s.i.a.), followed by Oklahoma in 1952 increasing its minimum gas price to 9.8262¢ per M.c.f. (14.65 pounds p.s.i.a.), and the present order of this Commission increasing the minimum price to 11¢ per M.c.f. (14.65 pounds p.s.i.a.) has created a chaotic condition with reference to the operation of gas pipeline companies such as this petitioner, as a result of which long range planning and building of facilities has been prejudiced, all to the injury of the gas consuming public served by this petitioner.

K. We again call attention to the language of the Commission on page 5 of its Memorandum Opinion:

> "Thus if the minimum wellhead price of natural gas is permitted to remain too low, effectiveness in achieving its objective as a conservation measure is thwarted."

By this language, the Commission has squarely committed itself to an attempt to prevent economic waste, as it makes [fol. 86] no other complaint as to waste of any kind in its entire order. It ignores the express language of the statute defining economic waste, namely, Section 55-702, G. S. 1949, where the statute states:

> "Economic waste as used in this act, shall mean the use of natural gas in any manner or process except for efficient light, fuel, carbon black manufacturing and repressuring, or for chemical or other processes by which such gas is efficiently converted into a solid or a liquid substance."

In the entire record, there is not one word of evidence that discloses the use of natural gas for any except the above purposes. Therefore, economic waste has not been shown to exist under the evidence in this case. The dictionary definition of economic waste or the opinions of the witnesses testifying before the Commission as to the meaning of economic waste cannot control over the legislative definition of economic waste. All of the evidence of the witnesses testifying as to comparative value of gas with coal and fuel oil as constituting waste of gas is incompetent and Commission erred in admitting such testimony. The order of the Commission can therefore be nothing but a price fixing order and in this the Commission has erred.

Wherefore, Petitioner, for the reasons hereinbefore stated, respectfully prays that the Commission set aside its order of December 2, 1953, and grant a rehearing herein.

[fol. 87] ORDER DENYING PETITION FOR REHEARING—December 16, 1953

Now on this 16th day of December, 1953, the above-entitled matter comes before the Commission for further consideration upon the petitions for rehearing filed herein by Cities Service Gas Company and Kansas-Nebraska Natural Gas Company, Inc. The Commission, having re-examined its files and records and being fully advised in the premises, finds:

1. That the Commission's order of December 2, 1953, was a valid exercise of its authority under G. S. 1949, 55-701, *et seq.*

2. That the petitions for rehearing filed herein by Cities Service Gas Company and Kansas-Nebraska Natural Gas Company, Inc., are without merit.

3. That said petitions for rehearing heretofore referred to should be denied.

IT IS, THEREFORE, BY THE COMMISSION ORDERED: That the petitions for rehearing by Cities Service Gas Company and Kansas-Nebraska Natural Gas Company, Inc., in this docket be and they are hereby denied.

The Commission retains jurisdiction of the subject matter and the parties for the purpose of entering such further order or orders, and promulgating and implementing such further rules and regulations as from time to time it may deem proper.

BY THE COMMISSION IT IS SO ORDERED.

[fol. 88] IN THE DISTRICT OF FINNEY COUNTY, KANSAS

No. 9934

CITIES SERVICE GAS COMPANY, a corporation, Plaintiff,

v.

STATE CORPORATION COMMISSION OF KANSAS; JEFF A. ROBERTSON, Chairman, DEWITT M. STILES, and CHARLES M. WARREN, as Members of said Commission, and their respective successors in office, Defendants.

PETITION OF CITIES SERVICE GAS COMPANY FOR JUDICIAL REVIEW OF COMMISSION PRICE ORDER

COMES NOW plaintiff Cities Service Gas Company, and for its cause of action herein against the above named defendants, alleges and shows to the Court:

1. Plaintiff is now and has been during all times material herein a Delaware corporation, duly authorized to transact business in the State of Kansas as a foreign corporation, with its principal office and place of business in the First National Building, Oklahoma City, Oklahoma, and an operating office at Wichita, Kansas.

2. Plaintiff is now and has been during all times material herein a natural gas company as defined in the Natural Gas Act as amended (15 U.S.C.A. 717) and engaged generally in the business of producing and purchasing natural gas for transportation and sale in interstate [fol. 89] commerce for resale under the provisions of said Act by means of an integrated pipeline system and facilities extending from Texas into and through Oklahoma and Kansas and into Missouri and Nebraska. In operating its said interstate integrated pipeline system, and as an integral part thereof, plaintiff has, among other things, entered into contracts with certain producers in the Kansas-Hugoton Gas Field which are presently subsisting and have been subsisting during all times material herein for the pur-

chase of natural gas produced in and from said Field, a part of such gas under said contracts being purchased at the wellhead in said Field and a part of such gas under said contracts being purchased from producers and delivered to plaintiff at its pipeline after such producers had produced and gathered such gas. After such gas is purchased by plaintiff, it is transported and sold along with other gas it produces and purchases for resale both in interstate and intrastate commerce in Kansas and other states.

3. On the 2nd day of December, 1953, said defendants, purporting to act in their official capacity as the Corporation Commission of the State of Kansas, hereinafter called "Commission", promulgated and issued a minimum gas price-fixing order for said Kansas-Hugoton Gas Field finding and providing therein, among other things:

> "IT IS FURTHER BY THE COMMISSION ORDERED: That all persons, firms or corporations which take gas or cause gas to be taken from the Hugoton Gas Field in Kansas on and after January 1, 1954, 12:01 a.m., shall, as a condition precedent for withdrawal from the common source of supply, pay or attribute to all gas taken, except gas for the operations of leases, for all pur-
> [fol. 90] poses including payments to producers, landowners, lease owners and royalty owners, the fair and reasonable minimum price of not less than eleven cents (11¢) per M.c.f. (14.65 pounds p.s.i.a.) at the wellhead until further order or orders of this Commission."

4. After the issuance of said order and within the time and in the manner prescribed by G. S. 1949, 55-606, plaintiff duly filed with Commission its petition for rehearing. Thereafter, and on the 16th day of December, 1953, said Commission denied plaintiff's said petition for rehearing.

5. Plaintiff further states that as a purchaser of gas produced in and from said Kansas-Hugoton Field it is aggrieved by the promulgation and issuance of said order; that the property of plaintiff affected by said order is located, among other counties, in Finney County, Kansas, and jurisdiction for a judicial review of said order of said

Commission is granted this Court by G. S. 1949, Sections 55-707 and 55-606.

6. Plaintiff, in further support of its petition for judicial review herein, states:

A. That the evidence in the record adduced by royalty and mineral owners in support of their application for issuance of said Commission's minimum gas price order for the Kansas-Hugoton Field is not sufficient as a matter of law, as decided by the Supreme Court of Kansas in *Kansas-Nebraska Natural Gas Company* v. *State Corporation Commission*, 169 Kan. 722, 222 P.2d 704, 170 Kan. 341, and 222 P.2d 1054, to justify the issuance of said order of December [fol. 91] 2, 1953, because such evidence does not prove or tend to prove that it was necessary for the Commission to issue such order to prevent waste or protect correlative rights as required by said decision.

B. Commission has failed to make any findings in said order that it is necessary to issue such an order as issued to prevent waste and protect correlative rights as required by the decision of the Kansas Supreme Court cited in (A) hereof.

C. There is no competent or substantial evidence in the record to justify or authorize the issuance of said order or the findings made therein or in the memorandum opinion made a part of such order by reference, and said order and the findings made therein and in said memorandum opinion are contrary to law and to the evidence as disclosed by the record.

D. Commission erred in refusing to take judicial notice of its own proration and well allowable orders issued for said Kansas-Hugoton Gas Field since March 1, 1949, and refusing to accept said orders offered in evidence by plaintiff by reference in accordance with Commission's subsisting procedural rule 82-1-79.

E. Commission erred in accepting and receiving in evidence testimony and evidence of royalty and mineral owners collaterally attacking, impeaching and contradicting subsisting unreversed proration and wellhead orders of Com-

mission finding that the gas produced and marketed from said Kansas-Hugoton Field since March 1, 1949, could be produced and marketed without waste and that the utiliza-
[fol. 92] tion of such gas so produced from said field and the wells therein will be for a purpose permitted by the laws of Kansas and the subsisting rules and regulations of said Commission and will not constitute waste.

F. As applied to the operations of plaintiff as evidenced by the record, there exists in the Commission no jurisdiction or authority to promulgate and issue said minimum gas price order.

G. Commission's said order excepts from the operation of the minimum price fixed by said order gas for the operation of leases and by reason thereof such order unlawfully discriminates in favor of gas for the operation of leases and the owners of such gas, and against gas used for other lawful purposes authorized by the statute and the owners thereof in violation of the Fourteenth Amendment to the Constitution of the United States and Section 17 of Article II of the Constitution of Kansas.

H. Commission by its said order denied the petition of Applicant royalty and mineral owners filed therein and that by reason thereof Commission had no authority to issue its said minimum gas price order for said Kansas-Hugoton Gas Field.

I. Commission's Basic Proration Order for the Hugoton Field, particularly paragraphs (n) and (o) of said order, provides for market demand hearings for said field; that pursuant to the provisions of said Basic Proration Order, Commission issues each month its orders covering each allowable period; that Commission each and every month, since March 1, 1949, to date of the issuance of the
[fol. 93] present minimum price order, has made and issued monthly proration orders; that in each and every order so issued, the Commission specifically found, based upon testimony duly introduced in its market demand hearings, that the amount of gas allowed by the Commission to be produced from the Hugoton Field could be produced and marketed without waste, as defined and contemplated by the Kansas

statute. G. S. 1949, 55-606, provides that any person aggrieved by such a proration order may have the same reviewed in the manner authorized by the provisions of said section of said statute. None of such proration orders so issued as aforesaid has been questioned or reviewed as provided by such statute. The Supreme Court of this state decided, in *Continental Investment Corporation* v. *State Corporation Commission*, 156 Kan. 858, that where such proration orders had not been questioned or reviewed as provided by said statute, said orders became final and binding on all parties, including Commission, until reversed, modified, vacated or set aside; that same could not be collaterally attacked or impeached.

That the evidence introduced before the Commission in the instant hearing, preceding the issuance of its order here in question, purported to and did attempt to impeach and collaterally attack such monthly proration orders by endeavoring to show the commission of waste of gas in said Hugoton Field; that by reason of the foregoing, there is no competent evidence in the record to show any waste of gas in said Hugoton Field between March 1, 1949, and the date of the issuance of the Commission's order; that by reason of the findings specifically made in each of said [fol. 94] monthly proration orders to the effect that the gas allowed to be produced and marketed from said field could be produced and marketed without waste, such orders cannot be collaterally attacked or impeached and are final and binding upon Commission and all parties to these proceedings, and the uncontradictable evidence before such Commission during the period in question conclusively shows that the gas produced and marketed from said field since March 1, 1949, was produced and marketed without waste as defined or contemplated by the Kansas statute.

J. Commission's subsisting rule 82-2-101 provides, among other things:

> "Correlative rights shall mean that each owner or producer in a common source of supply is privileged to produce therefrom (which includes the Hugoton Gas Field) only in such manner or amount as not to injure the reservoir to the detriment of others or to

take an undue proportion of the oil or gas obtainable therefrom, or to cause undue drainage between developed leases" (Parenthesis ours).

That such definition of correlative rights, as defined by Commission, is binding and conclusive on all parties to these proceedings, including Commission; that by reason of such definition, there is absolutely no evidence in the record which discloses that the correlative rights of owners or producers in the Hugoton Field were being violated or were suffering detriment of any kind or character; that under the decision of the Supreme Court in *Kansas-Nebraska Natural Gas Co.* v. *State Corporation Commission, supra*, there is no competent or substantial evidence [fol. 95] to support the issuance of the Commission's order, and the evidence in the record under said decision is not sufficient to authorize or empower Commission to issue such minimum gas price order.

K. Based upon and as applied to the operations of plaintiff, as shown by the undisputed evidence in the record, Commission's order, as drawn, is invalid, illegal and void for the following reasons:

(a) Such order is clearly a price-fixing order and has no reasonable relationship to waste, protection of correlative rights or the conservation of natural gas.

(b) It casts a burden on, impedes, impairs and discriminates against interstate commerce in violation of the commerce clause of the Constitution of the United States.

(c) It denies petitioner due process of law and the equal protection of the law, in violation of the Fourteenth Amendment to the Constitution of the United States and Section 17 of Article II of the Constitution of the State of Kansas.

(d) It violates the subsisting provisions of Article V of the "Interstate Compact to Conserve Oil and Gas" in that said order purports to limit the production of gas in said Hugoton Field for the purpose of stabilizing or fixing the price thereof.

(e) It violates the contract clause of the Federal Constitution.

L. The order of the Commission fails to give any recognition to or take into consideration the b.t.u. content of the [fol. 96] gas produced and marketed from the Kansas Hugoton Field. The evidence in the record shows that the b.t.u. content of the Kansas Hugoton Field varies from approximately 730 b.t.u. to 1030 b.t.u. The failure of the Commission to take the b.t.u. content into consideration, or at least to set a minimum thereof, results in discrimination in favor of the producers and royalty owners from the low b.t.u. area of the field and against producers and royalty owners from the higher b.t.u. area of the field and purchasers from the low b.t.u. area; that the said order should be set aside and held for naught because of the facts herein stated concerning the heat value of the different gas in the field, and further because the same is unlawful, illegal, discriminatory and void.

7. That by reason of the foregoing said Commission's minimum gas price order for the Hugoton Field is illegal, unlawful, unreasonable, arbitrary, unconstitutional, and null and void, and said Commission had no jurisdiction or authority to promulgate and issue such order.

WHEREFORE plaintiff prays:

(a) That the Court take jurisdiction of this action and judicially review said minimum gas price order of said Commission and the findings upon which the same is based, the memorandum opinion of Commission made a part thereof by reference, together with the evidence and testimony in the record, and enter a judgment setting aside said order and the findings made therein and in said memorandum opinion made a part thereof by reference, and declare said order ineffective, unconstitutional and void.

[fol. 97] (b) In the alternative, that this action be remanded in the interest of justice to the Commission, with directions that the same be further investigated and additional evidence taken by the Commission.

(c) That this Court independently review the record and make its own findings of fact and conclusions of law including, among other findings, the question of waste and correlative rights.

(d) That this action be advanced over any other civil cause of a different nature pending before this Court, and be heard and determined as promptly and expeditiously as possible; and

(e) The Court grant plaintiff such further and additional relief by such judicial review as is authorized by the provisions of G. S. 1949, 55-606.

JOURNAL ENTRY OF JUDGMENT AFFIRMING PRICE ORDER AND DENYING MOTION FOR NEW TRIAL

Now on this 26th day of April, 1956, this matter comes on duly for hearing and trial, the parties appearing by and through their respective counsel of record.

Thereupon, in open court, the evidence is submitted to the court on the record of the proceedings had before the State Corporation Commission, on the abstracts, counter abstracts and supplements thereto, filed herein by the parties, including the exhibits introduced in such proceedings.

[fol. 98] Thereupon, the matter proceeds to hearing on the motions to dismiss filed by defendants on April 26, 1956, the court having granted leave to file one motion on grounds previously urged stated therein, and hearing the respective oral arguments of counsel in support of and in opposition to said motions.

The court, having heard such arguments of counsel, having examined the records, briefs, pleadings and evidence in the cause, including the evidence and verified statement presented by defendants in support of its renewed motion to dismiss, and being well advised, finds that said motions to dismiss, and each of them, should be overruled.

IT IS THEREFORE BY THE COURT CONSIDERED, ORDERED, ADJUDGED AND DECREED that said motions to dismiss, and each of them, be and the same are hereby overruled and denied.

Thereupon, the court proceeded to hear further arguments to their conclusion and, the cause being fully submitted, took the case under advisement.

Now on this 14 day of May, 1956, the court having given due consideration to all of the evidence in the cause as aforesaid, the briefs and oral arguments of counsel, and being otherwise fully advised in the premises, finds:

1. That the Order entered by the State Corporation Commission of the State of Kansas, one of the defendants herein, in its Docket No. 44,079-C (C-3216), Conservation Division, on the 2nd day of December, 1953, on review herein, was a lawful and reasonable order.

[fol. 99] 2. That said Order here before this court on a petition for review should be upheld and sustained.

IT IS THEREFORE BY THE COURT ORDERED, ADJUDGED AND DECREED that said Order entered by the State Corporation Commission of the State of Kansas, one of defendants herein, in its Docket No. 44,079-C (C-3216), Conservation Division, on the 2nd day of December, 1953, be and the same is hereby upheld and sustained, and that the costs of review in this court be and they hereby are assessed against the plaintiff.

Thereafter, and within time, and on the 14 day of May, 1956, the plaintiff files its motion for new trial.

Now on this 14 day of May, 1956, the cause comes on for further hearing on said motion for new trial, the parties appearing as aforesaid.

The court, having heard the arguments of counsel and being fully advised in the premises, finds that said motion for new trial should be overruled.

IT IS THEREFORE CONSIDERED, ORDERED, ADJUDGED AND DECREED that plaintiff's motion for new trial filed herein, be and the same is hereby overruled.

Roland H. Tate, Judge, District Court of Finney County, Kansas.

[fol. 100] MOTION FOR NEW TRIAL

COMES NOW Cities Service Gas Company, plaintiff herein, and moves the Court to vacate and set aside the decision and judgment of this Court made and entered by this Court in the above entitled action on the 14th day of May, 1956, whereby and wherein the Court sustained and affirmed the minimum gas price-fixing order of said defendant State Corporation Commission of Kansas, issued December 2, 1953, effective January 1, 1954, involved in this action, as applied to the operations of Cities Service Gas Company, and to grant said plaintiff Cities Service Gas Company a new trial of this action, for the following causes which affect materially and substantially the rights of Cities Service Gas Company, aggrieved by said judgment and decision, namely:

(a) Erroneous rulings of the Court.

(b) The judgment and decision is in whole or in part contrary to the evidence.

(c) As applied to the operations of plaintiff Cities Service Gas Company, a natural gas company as defined by the Natural Gas Act, 15 U. S. C. A. 717, as evidenced by the record in this case, there exists in said defendant State Corporation Commission of Kansas no jurisdiction or authority to promulgate and issue said minimum gas price-fixing order.

[fol. 101] NOTICE OF APPEAL TO THE SUPREME COURT OF KANSAS—May 14, 1956

To State Corporation Commission of Kansas, the respective Members thereof above named, and its Attorneys of Record, C. C. Linley, General Counsel of said Commission, Howard T. Fleeson and Dale Stucky of Counsel for said Commission, and Don C. Smith, Special Counsel for said Commission

You, and each of you, will hereby take notice that the above-named Plaintiff Cities Service Gas Company has appealed, and does hereby appeal to the Supreme Court of the State of Kansas from the judgment and decision, and every part thereof, made, entered and rendered by the District Court of Finney County, Kansas, in the above entitled action on the 14 day of May, 1956, whereby and wherein said Court sustained and affirmed the minimum gas price-fixing order of said Defendant State Corporation Commission of Kansas, issued December 2, 1953, effective January 1, 1954, involved in said above-entitled action, as applied to the operations of Cities Service Gas Company, and does further appeal to said Supreme Court from the order of said District Court, made and entered therein on said aforesaid date, denying and overruling said plaintiff's motion for a new trial in said above entitled action.

DATED this 14 day of May, 1956.

[fol. 103] EXHIBIT 35

CITIES SERVICE GAS COMPANY
TOTAL GAS PURCHASED IN 1951.
KANSAS HUGOTON FIELD
1951 (16.4 # Base)

Sellers	M.C.F.	Rates	Amount
Stanolind Ojl & Gas Co.	26,220,770	8.4 ¢	$2,202,544.67
Jointly Owned Wells	204,471	8.29819	16,967.39
Magnolia Petroleum Co.	20,917,024	8	1,673,361.92
United Producing Co., Inc.	6,318,115	8	505,449.20
W. E. Bakke	709,353	8.4	59,585.64
Columbian Fuel Corp.	3,608,368	11 ¢	396,920.48
Western Natural Gas Co.	5,244,542	8.36957	438,946.08.
Cabot Carbon Co.	2,480,154	8.99998	223,213.41
Texas Co. and Columbian	3,450,246	8.28808	285,959.19
TOTAL	69,153,043		$5,802,947.98

Weighted Average Price P/M.C.F. 8.39145716 ¢

[fol. 104] EXHIBIT 36

CITIES SERVICE GAS COMPANY
1951 — 16.4 # BASE

Wells Connected—Well Head or Pipeline Delivery

Producer	No. of Wells at 10/1/52	M.C.F. Connected At Wells	% of Total M	M.C.F. Connected By P.I. D.	% of Total M
Stanolind	498	26,220,770	37.92		
Joint Wells	10	204,471	0.30		
Magnolia	156			20,917,024	30.25
United	145			6,318,115	9.14
Bakke	12	709,353	1.03		
Columbian	66			3,608,368	5.21
Western	49	5,244,542	7.58		
Cabot	37	2,480,154	3.58		
Texas-Columbian	17	3,450,246	4.99		
TOTALS	990	38,309,536	55.40%	30,843,507	44.60%

Approximate Amounts of Gas—Treated and Untreated

	Total 16.4# MCF	Total Treated	% Treated	Total Untreated	% Untreated
Stanolind	26,220,770	23,650,211*	46.55	2,570,559***	14.01
Joint Wells	204,471	143,130*	0.28	61,341	.33
Magnolia	20,917,024	20,917,024**	41.17		
United	6,318,115	145,929*	0.29	6,172,186	33.65
Bakke	709,353	709,353*	1.39		
Columbian	3,608,368			3,608,368	19.68
Western	5,244,542	5,244,542*	10.32		
Cabot	2,480,154			2,480,154	13.52
Texas-Columbian	3,450,246			3,450,246	18.81
TOTALS	69,153,043	50,810,189	100.00%	18,342,854	100.00%

% of total treated—73.47% and untreated 26.53%

* Treated in Stanolind Plant
** Treated in Magnolia Plant
*** Stanolind "C" System gas (6 wells) and gas to Kansas-Nebraska Nat. Gas Co., Inc.

EXHIBIT 37

CITIES SERVICE GAS COMPANY
TOTAL GAS HANDLED—1949 THRU 1951 ACTUAL:
ESTIMATED LAST 3 MONTHS OF 1952 & ALL OF 1953
14.9# MMCF PERCENTAGE COMPARISONS

	1949		1950		1951		1952 9 Mos. Actual 3 Mos. Est'd.		1953 Presently Estimated	
	MMCF	% of Total	MMCF	% of Total	MMCF	% of Total	MMCF	% of Total	MMCF	% of Total
Gas Produced										
Pampa, Texas	59 896	26.26	61 500	23.74	63 182	23.07	60 394	21.05	60 000	18.21
Guymon Hugoton	18 612	8.16	15 697	6.06	18 798	6.86	18 411	6.42	22 508	6.83
Other Areas	1 569	0.69	371	0.14	544	0.21	367	0.12	374	0.12
Sub-Totals— Prod.	80 077	35.11	77 568	29.94	82 524	30.14	79 172	27.59	82 882	25.16
Gas Purchased										
Guymon Hugoton	35 508	15.57	31 734	12 25	36 951	13.49	34 388	11.98	42 318	12.85
Kansas Hugoton	46 344	20.32	80 456	31 06	83 725	30.58	103 569	36.10	135 583	41.16
Other Areas	66 166	29.00	69 283	26.75	70 617	25.79	69 791	24.33	68 631	20.83
Sub-Totals— Purch.	148 018	64.89	181 473	70.06	191 293	69.86	207 748	72.41	246 532	74.84
TOTALS— Prod. & Purch.	228 095	100%	259 041	100%	273 817	100%	286 920	100%	329 414	100%

[fol. 106] EXHIBIT 38

KANSAS-HUGOTON FIELD
TOTAL GAS RUN DURING 1951 — 16.4# PRESSURE BASE
— DATA FROM KANSAS COMMISSION REPORTS

1951	Total No. Wells	M.C.F.
January	2,256	33,156,307
February	2,264	30,108,341
March	2,280	31,236,235
April	2,312	28,405,081
May	2,322	22,378,979
June	2,322	22,358,233
July	2,351	20,579,054
August	2,407	22,029,867
September	2,451	22,934,503
October	2,521	28,325,633
November	2,569	33,731,594
December	2,595	36,545,600
Total		331,789,427 M

Assume Weighted Average Royalty Rate is 9.1¢

Examples

	M.C.F.	Values @ 9.1¢
1/8 Royalty Gas	41,473,678 M	$ 3,774,104.69
7/8 W. Int. Gas	290,315,749	26,418,733.16
Total	331,789,427 M	$30,192,837.85

	Values @ 13¢	Increased Values	Values @ 14¢	Increased Values
1/8	$ 4,147,367.80	$ 373,263.11	$ 4,562,104.58	$ 787,999.89
7/8	29,031,574.90	2,612,841.74	31,934,732.39	5,515,999.23
8/8	$33,178,942.70	$2,986,104.85	$36,496,836.97	$6,303,999.12
% Increases		9.89%		20.879%

	Values @ 14¢	Increased Values	% Increase
1/8 R.I.	$ 5,806,314.92	$ 2,032,210.23	53.846%
7/8 W.I.	40,644,204.86	14,225,471.70	
Totals	$46,450,519.78	$16,257,681.93	

[fol. 107] EXHIBIT 39

CITIES SERVICE GAS COMPANY

Sales of natural gas from the transmission system during the fiscal year 1951, for light, fuel, repressuring, or for chemical and other processes by which such gas is converted into a liquid or solid substance.

Summary by Groups	Volumes Mcf 14.9#	Percent of Total Trans. System Sales
All States		
A. Industrial		
1. Chemical Production	15 886 932	6.9
2. Electric Generation	40 866 806	17.8
3. Petroleum Industry	21 570 136	9.4
4. Cement, Brick, Lime & Stone Industry	12 770 042	5.6
5. Institutions	3 980 710	1.7
6. Lead and Zinc Industry	2 497 292	1.1
7. Aircraft Industry	995 749	.4
8. Other Large Industries & Manufacturers	15 124 663	6.6
9. Processing of Agricultural Products	7 407 240	3.2
10. Other Consumers	3 704 719	1.6
Total Industrial	124 804 289	54.3
B. Domestic and Commercial	89 497 631	38.9
C. Pipeline Companies		
Calculated proportion for		
Domestic and Commercial	7 366 667	
Industrial	8 352 992	
Total Pipeline Companies	15 719 659	6.8
GRAND TOTAL ALL STATES	230 021 579	100.0

CITIES SERVICE GAS COMPANY

Sales of natural gas from the transmission system during the fiscal year 1951, for light, fuel, repressuring, or for chemical and other processes by which such gas is converted into a liquid or solid substance.

Summary by Groups	Volumes Mcf 14.9#	Percent of Kansas Trans. System Sales	Percent Kansas Sales of Total
Kansas			
A. Industrial			
1. Chemical Production	15 325 429	10.9	96.5
2. Electric Generation	26 464 282	18.8	64.8
3. Petroleum Industry	12 466 015	8.8	57.8
4. Cement, Brick, Lime & Stone Ind.	10 015 481	7.1	78.4
5. Institutions	2 845 878	2.0	71.5
6. Lead and Zinc Industry	383 392	0.3	15.4
7. Aircraft Industry	986 047	0.7	99.0
8. Other Large Inds. & Mfrs.	7 268 730	5.2	48.1
9. Processing of Agric. Products	5 233 384	3.7	70.7
10. Other Consumers	1 202 968	0.9	32.5
Total Industrial	82 191 606	58.4	65.9
B. Domestic and Commercial	45 286 732	32.1	50.6
C. Pipeline Companies			
Calculated proportion for			
Domestic and Commercial	6 910 911		
Industrial	6 517 178		
Total Pipeline Companies	13 428 089	9.5	85.4
TOTAL KANSAS	140 906 427	100.0	61.3
TOTAL OTHER STATES	89 115 152		
GRAND TOTAL ALL STATES	230 021 579		

[fol. 109] EXHIBIT 46

CITIES SERVICE GAS COMPANY

Increase in purchase gas expense to Cities Service Gas Company based on estimated purchases of natural gas in the Kansas-Hugoton field under present contracts for the fiscal year 1953.

Assumed Minimum Field Price Per Mcf		Increase in Purchased Gas Expense	
16.4 p.s.i.a.	14.65 p.s.i.a.	Amount	Percent
$.11	$.098262	$2 961 142	27.9
.12	.107195	4 193 715	39.6
.13	.116128	5 426 288	51.2
.14	.125061	6 658 861	62.8

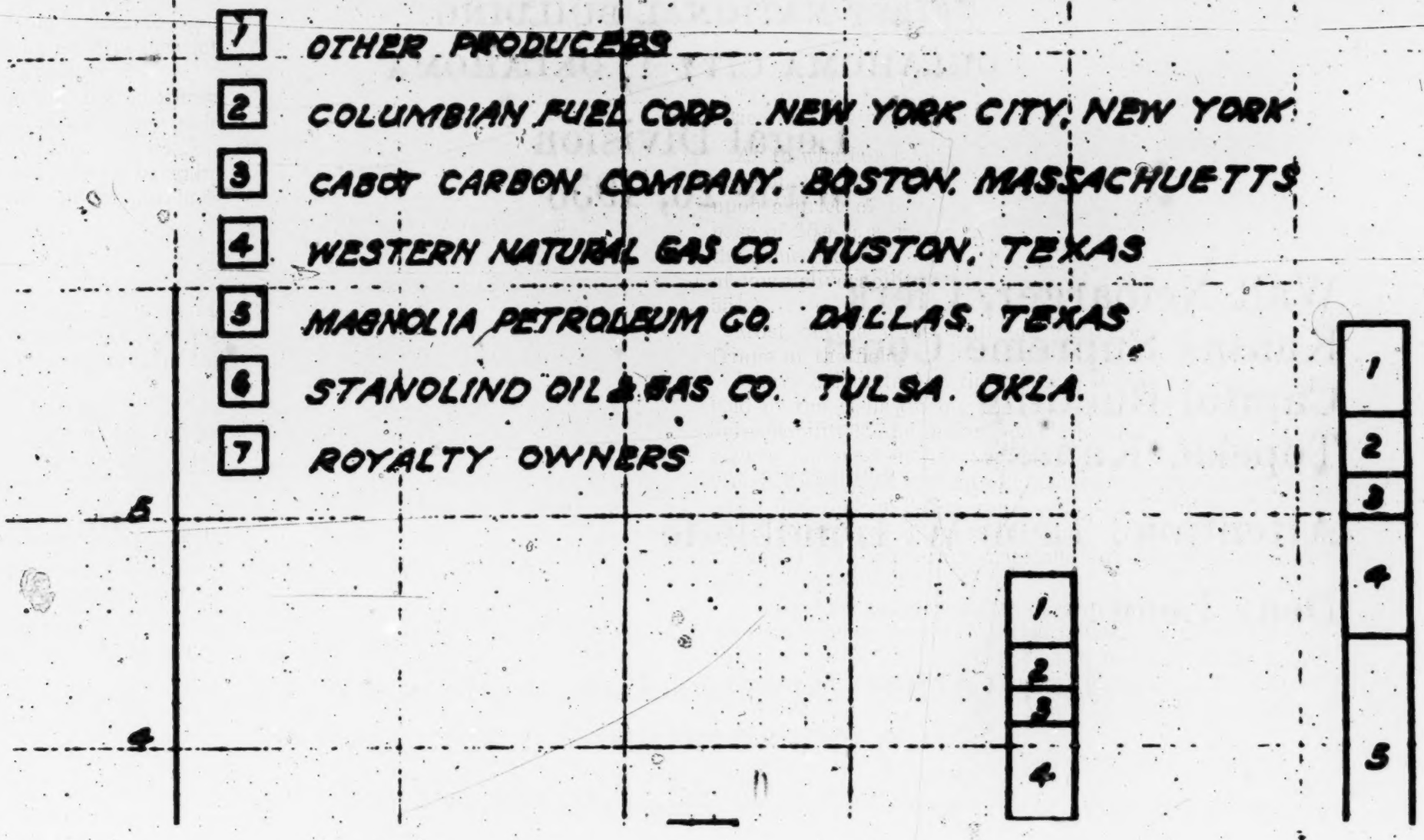
Corresponding increase in income to natural gas producers and royalty owners from price increases in the Kansas-Hugoton field assuming 7/8 of price increase is received by producers and 1/8 by the royalty owners.

Assumed Minimum Field Price Per Mcf		Increase in Income	
16.4 p.s.i.a.	14.65 p.s.i.a.	Producer	Royalty Owner
$.11	$.098262	$2 590 999	$370 143
.12	.107195	3 669 501	524 214
.13	.116128	4 748 002	678 286
.14	.125061	5 826 503	832 358

[fol. 110]

CITIES SERVICE GAS COMPANY

INCREASED DOLLAR INCOME TO GAS PRODUCERS AND ROYALTY OWNERS FROM PRICE INCREASES IN KANSAS-HUGOTON FIELD ASSUMING THAT 7/8 ths OF INCREASE IS RECEIVED BY GAS PRODUCER AND 1/8 th. BY ROYALTY OWNERS, BASED ON ESTIMATED GAS PURCHASES IN THE KANSAS HUGOTON FIELD BY CITIES SERVICE GAS COMPANY FOR THE YEAR 1953



[fol. 111] PROOF OF SERVICE

(COMPANY EMBLEM)

CITIES SERVICE GAS COMPANY
FIRST NATIONAL BUILDING
OKLAHOMA CITY 1, OKLAHOMA

Legal Division
June 26, 1956

Walt Neibarger, Clerk
Kansas Supreme Court
Capitol Building
Topeka, Kansas

Attention: Leon W. Lundblade

Dear Leon:

Re: Cities Service Gas Company vs. State Corporation Commission of Kansas, Et Al. No. 40,402

Pursuant to Rules 5 and 8 of the Court, there are sent to you, under separate cover, for immediate filing in the captioned Appeal, 20 copies of the Abstract of Record. You will note that the Abstract of Record is in two volumes. The first volume, designated "Abstract of Record", contains such portions of the record as are actually necessary for the Court to read in order to arrive at a full understanding of the questions presented for review and decide the issues raised by the Appeal; the second volume, which is made a part of the Abstract of Record by reference, is designated "Abstract Appendix", and contains in full the pleadings, instruments and exhibits which will enable the Court, if it so desires, to get the full details concerning these matters.

There is also enclosed original, with seven copies, of Appellant's Motion to Advance this cause on the docket for hearing at the October Session of the Court. It is our desire that this Motion be filed at the same time that the Abstract of Record is filed.

This letter is my certification that, as of this date, I have served copies of the Abstract of Record and Appendix made a part thereof, and Motion to Advance, as follows, on:

C. C. Linley, General Counsel
Kansas Corporation Commission
New England Building
Topeka, Kansas
(2 copies of Abstract and 1 copy of Motion to Advance)

[fol. 112] Dale M. Stucky, Attorney
First National Bank Building
Wichita, Kansas
(2 copies of Abstract and 1 copy of Motion to Advance)

Don C. Smith, Attorney
Dodge City, Kansas
(1 copy of Abstract and 1 copy of Motion to Advance),

by depositing same in the United States mail at Oklahoma City, Oklahoma, postage prepaid, and properly addressed to the above-named attorneys of record for Defendant Corporation Commission.

I would appreciate very much your acknowledging receipt of this letter and the enclosed Motion, and informing me the date the same is filed; also, acknowledging receipt of the 20 copies of the Abstract of Record, including Appendix thereto, and the date of the filing thereof in your office.

With kind regards, I remain

Yours very truly,

s/ Joe Rolston
Joe Rolston,
Attorney

JR:rm

ccs: M. F. Cosgrove, Attorney
National Bank of Topeka Bldg.
Topeka, Kansas

Mark H. Adams, Attorney
202 Wheeler Kelly Hagny Bldg.
Wichita, Kansas

[fol. 113] IN THE SUPREME COURT OF KANSAS

No. 40,402

CITIES SERVICE GAS COMPANY, a Corporation, Appellant,

v.

STATE CORPORATION COMMISSION OF KANSAS, HARRY SNYDER, JR., Chairman, RICHARD C. BYRD and JOHN I. YOUNG, as Members of said Commission, and their respective successors in Office, Appellees.

No. 40,403

THE CITY OF BELOIT, KANSAS, and 145 other Kansas Cities (Anthony, Atchison, Augusta, Axtell, Baldwin, Barnard, Baxter Springs, Belle Plaine, Belleville, Blue Rapids, Bazue, Buffalo, Buhler, Burns, Burr Oak, Cedar Vale, Chapman, Cherryvale, Chetopa, Clay Center, Clifton, Coffeyville, Colwich, Conway Springs, Council Grove, Countryside, Dearing, Dighton, Downs, Edgerton, Elgin, Ellinwood, Ellis, Emporia, Ensign, Esbon, Formoso, Fort Scott, Fowler, Frankfort, Galena, Garfield, Garnett, Gem, Geuda Springs, Girard, Glasco, Goodland, Great Bend, Greensburg, Gypsum, Haddam, Halstead, Hanover, Hays, Herington, Hill City, Hillsboro, Holton, Horton, Huron, Independence, Iola, Jetmore, Junction City, Kanopolis, Kensington, Kingman, La Harpe, Lawrence, Leavenworth, Lebanon, Lenexa, LeRoy, Lincoln Center, Lindsborg, Little River, Longton, Luray, Lyndon, McPherson, Macksville, Madison, Mahaska, Mankato, Marysville, Meriden, Miltonvale, Minneapolis, Morrill, Mulvane, Munden, Merriam, Narka, Natoma, Neodesha, Ness City, Newton, Norcatur, Norton, Oakley, Osawatomie, Osage City, Plainville, Pomona, Prairie Village, Pratt, Preston, Quenemo, Ramona, Rantoul, Reserve, Roeland Park, St. Francis, St. Marys, Scammon, Scott City, Sedan, Sedgwick, Seneca, Shawnee, Silver Lake, Sterling, Stockton, Sylvan Grove, Thayer, Topeka, Toronto, Turon, Wa-Keeney, Wamego, Washington, Waterville, Waverly,

Weir, Wellington, Westmoreland, Whitewater, Whiting, Williamsburg, Wilson), Appellants,

v.

STATE CORPORATION COMMISSION, et al., Appellees.

SYLLABUS BY THE COURT

1. Gas—*Production and Distribution of Gas—Control Vests in the State.* In Kansas, under legislation relating to the production and conservation of natural gas to prohibit waste (G. S. 1949, 55-701 to 55-713, incl.), the [fol. 114] production and distribution of natural gas for light, fuel and power is a business of a public nature, the control of which belongs to the state, and under such sections of the statute the power to prevent waste and conserve natural gas is vested in the State Corporation Commission.

2. SAME—*Corporation Commission—Fixing Minimum Wellhead Price—Prevention of Waste.* The provisions of the statute mentioned in the first paragraph of this syllabus give the State Corporation Commission power and authority to make an order fixing a minimum wellhead price for natural gas taken from a common source of supply, as a condition precedent for withdrawal of the gas from such common source of supply, when—as here—the evidence before the Commission warrants its conclusion such an order is necessary in order to prevent waste and to secure the relative rights of owners of real property from which such gas is produced from the common source of supply (Following *Kansas-Nebraska Natural Gas Co.* v. *State Corporation Commission*, 169 Kan. 722, 222 P. 2d 704.).

3. SAME—*Order of Commission Fixing Minimum Price at Wellhead—Compliance with Order Condition Precedent to Withdrawal of Gas.* A conservation order of the State Corporation Commission, similar to the order referred to in paragraph two of the syllabus, construed as meaning that from and after the effective date of such order no person, firm or corporation—first of all the

producer—can lift or take gas in its natural state from the depths of the Hugoton Gas Field in Kansas to a point further than the wellhead without, as a condition precedent to its withdrawal, first attributing thereto the minimum price prescribed by the terms of such order.

4. SAME—*Fixing Minimum Wellhead Price—Order Does Not Contravene Provisions of Federal Natural Gas Act.* In the light of the facts of record and with the order construed as set forth in paragraph three of the syllabus it is held that such order falls squarely within the excluding provisions of the Natural Gas Act (15 U. S. C. A. § 717 [b]) providing that the terms of such Act do not apply to the production of natural gas.

5. SAME—*Fixing Minimum Wellhead Price—Judgment Upholding Commission's Order Proper.* The record further examined, and it is *held*, that under the facts, conditions and circumstances set forth at length in the opinion, the trial court did not err in its judgment upholding and sustaining the order of the Commission as a lawful and reasonable order.

Appeals from Finney district court; ROLAND H. TATE, judge. Opinion filed December 8, 1956. Affirmed.

Mark H. Adams, of Wichita, and *Joe Rolston*, of Oklahoma City, Oklahoma, argued the cause, and *M. F. Cosgrove*, of Topeka, *D. B. Lang*, of Scott City, *Conrad C. Mount*, *O. R. Stites* and *Gordon J. Quilter*, all of Oklahoma City, Oklahoma, were with them on the briefs for the appellant Cities Service Gas Company.

Ralph W. Oman, of Topeka, argued the cause, and *Robert L. Webb*, *Philip E. Buzick*, *Robert A. McClure*, and *James D. Waugh*, all of Topeka, were with him on the briefs for the appellant Cities.

[fol. 115] *C. C. Linley*, general counsel, State Corporation Commission, of Topeka, and *Dale M. Stucky*, special counsel, of Wichita, argued the cause, and *Charles R. Escola*, assistant general counsel, of Topeka, and *Howard T. Fleeson* and *Wayne Coulson*, of counsel, both of Wichita, and *Don C. Smith*, special counsel, of Dodge City, were with them on the briefs for the appellees.

Opinion

The opinion of the court was delivered by

Parker, J.: The present appeals, consolidated for purposes of review in this court, challenge the validity of an order of the State Corporation Commission (hereinafter referred to as the Commission) subsequently upheld in a review proceeding by the district court of Finney County, fixing a minimum price of eleven cents per thousand cubic feet, 14.65# p.s.i.a., at the wellhead for all persons, firms or corporations taking gas or causing gas to be taken from the Hugoton Gas Field in Kansas on or after January 1, 1954.

The salient facts essential to a proper understanding of the issues involved will be related as briefly as the state of a lengthy record permits.

On August 18, 1952, the Southwest Kansas Royalty Owners Association, a corporation, and other individuals, commenced the proceedings by filing with the Commission a petition, alleging in substance that a previous minimum gas price order made by that body was no longer adequate to conserve and prevent waste of natural gas and protect correlative rights in its common source of supply in the Hugoton Field and requesting that, pursuant to authority conferred upon it by the provisions of G. S. 1949, 55-701 to 55-713, incl., the Commission set a minimum price, for such gas in such field, of not less than fourteen cents per M.c.f. measured on a pressure basis of 16.4 pounds per square inch or not less than twelve cents per M.c.f. measured on a pressure basis of 14.65 pounds per square inch.

Shortly after the commencement of the proceedings the appellants herein intervened and filed written protests. In its protest the Cities Service Gas Company (hereinafter referred to as the Gas Company) alleged that it was a foreign corporation, a natural gas company as defined in the Natural Gas Act as amended (15 U. S. C. A. § 717), was engaged generally in the business of producing and purchasing natural gas for transportation and sale in interstate commerce for resale by means of an integrated pipeline system extending through several states and protested the granting of the relief sought by the petitioners on

numerous grounds, the one here involved being that under [fol. 116] the facts and circumstances currently existing in the Kansas-Hugoton Field, and operations of the protestant therein, the Commission had no jurisdiction or authority, either on application of petitioners or otherwise, to fix or determine either a minimum or other price for natural gas produced in and from such field. In their protest the appellants, the City of Beloit, Kansas, and the other Cities listed in the title of this opinion (hereinafter referred to as the Cities), alleged that they were interested parties because their inhabitants were purchasers, users and consumers of natural gas for divers domestic, household and industrial purposes and then, for purposes here in question, protested the granting of the relief sought by petitioners on grounds practically the same as those relied on by the Gas Company in its protest.

On December 2, 1953, effective January 1, 1954, the Commission, after hearings consuming approximately thirteen days, promulgated and issued a minimum value attribution and/or price order for the Kansas portion of the Hugoton Gas Field. For present purposes it may be said that the all important portion of such order reads:

> "That all persons, firms or corporations which take gas or cause gas to be taken from the Hugoton Gas Field in Kansas on and after January 1, 1954, 12:01 a. m., shall, as a condition precedent for withdrawal from the common source of supply, pay or attribute to all gas taken, except gas for the operations of leases, for all purposes including payments to producers, landowners, lease-owners and royalty owners, the fair and reasonable minimum price of not less than eleven cents (11¢) per Mcf. (14.65# psia.) at the wellhead until further order or orders of this Commission."

By reference the Commission made a memorandum opinion a part of the foregoing order. This order is lengthy and in such form its averments cannot be readily summarized. However, it leaves no doubt and eliminates all confusion as to the purpose of the Commission in making the order and the grounds on which it based its action. For these reasons we attach a copy of such memorandum to this opinion as an appendix where it will be available for ready reference.

The Gas Company and the Cities each filed motions for rehearings. These were considered by the Commission and overruled. Thereupon such parties filed their separate actions for judicial review of the order of the Commission by the district court of Finney County, as authorized by G. S. 1949, 55-707, in the manner provided in G. S. 1949, 55-606. Ultimately these actions were consolidated for trial by such district court and heard together. What happened [fol. 117] during the trial and the results thereof are best reflected in identical journal entries of judgment. With respect to such matters these journal entries, omitting three paragraphs thereof relating to motions to dismiss by the defendants the Commission and the three acting members thereof in their official capacity, not involved on appellate review, read:

"Now on this 26th day of April, 1956, this matter comes on duly for hearing and trial, the parties appearing by and through their respective counsel of record.

"Thereupon, in open court, the evidence is submitted to the court on the record of the proceedings had before the State Corporation Commission, on the abstracts, counter abstracts and supplements thereto, filed herein by the parties, including the exhibits introduced in such proceedings."

* * * * * * *

"Thereupon, the court proceeded to hear further arguments to their conclusion and, the cause being fully submitted, took the case under advisement.

"Now on this 14 day of May, 1956, the court having given due consideration to all the evidence in the cause as aforesaid, the briefs and oral arguments of counsel, and being otherwise fully advised in the premises, finds:

"1. That the Order entered by the State Corporation Commission of the State of Kansas, one of the defendants herein, in its Docket No. 44,079-C (C-3216), Conservation Division, on the 2nd day of December, 1953, on review herein, was a lawful and reasonable order.

"2. That said Order here before this court on a petition for review should be upheld and sustained.

"It Is Therefore by the Court Ordered, Adjudged and Decreed that said Order entered by the State Corporation Commission of the State of Kansas, one of defendants herein, in its Docket No. 44,079-C (C-3216), Conservation Division, on the 2nd day of December, 1953, be and the same is hereby upheld and sustained, and that the costs of review in this court be and they hereby are assessed against the plaintiff."

Following rendition of the foregoing judgment the plaintiffs in the two actions, *i. e.*, the Gas Company and the Cities, filed separate motions for a new trial. When these motions were overruled such plaintiffs perfected separate appeals which, upon reaching this court, were consolidated for purposes of hearing and argument on motion of the appellant Cities.

From what has been stated up to this point it might seem that many issues are involved on this appeal. Not so. It can be conceded that numerous issues were raised by the protesting appellants before the Commission and in the trial of the issues presented by their respective petitions for judicial review in the court below. However, the fact is that under their specifications of error and questions stated and argued in their briefs, which we pause to note [fol. 118] are substantially the same and may hereafter be treated as identical in nature, the sole question presented on appellate review is, that in the light of the facts and circumstances of record, the Commission had no jurisdiction to issue the minimum value attribution and/or price order in question because the sole and exclusive jurisdiction to make such order is vested in the Federal Power Commission under the Natural Gas Act (15 U. S. C. A. § 717); and that all other issues raised below have been abandoned by appellants and are not here subject to review. Therefore we proceed on that basis, noting as we do so that such question will be disposed of without regard to reference made by the Commission in its brief and on oral argument to an interpretation of the involved order made subsequent to the date on which the rights of the parties were determined by the judgment rendered in the district court.

In approaching consideration of the foregoing question its disposition will be simplified by pointing out and direct-

ing attention to other facts and matters of record about which there can be little if any dispute. These, so far as appellants are concerned, may be stated thus.

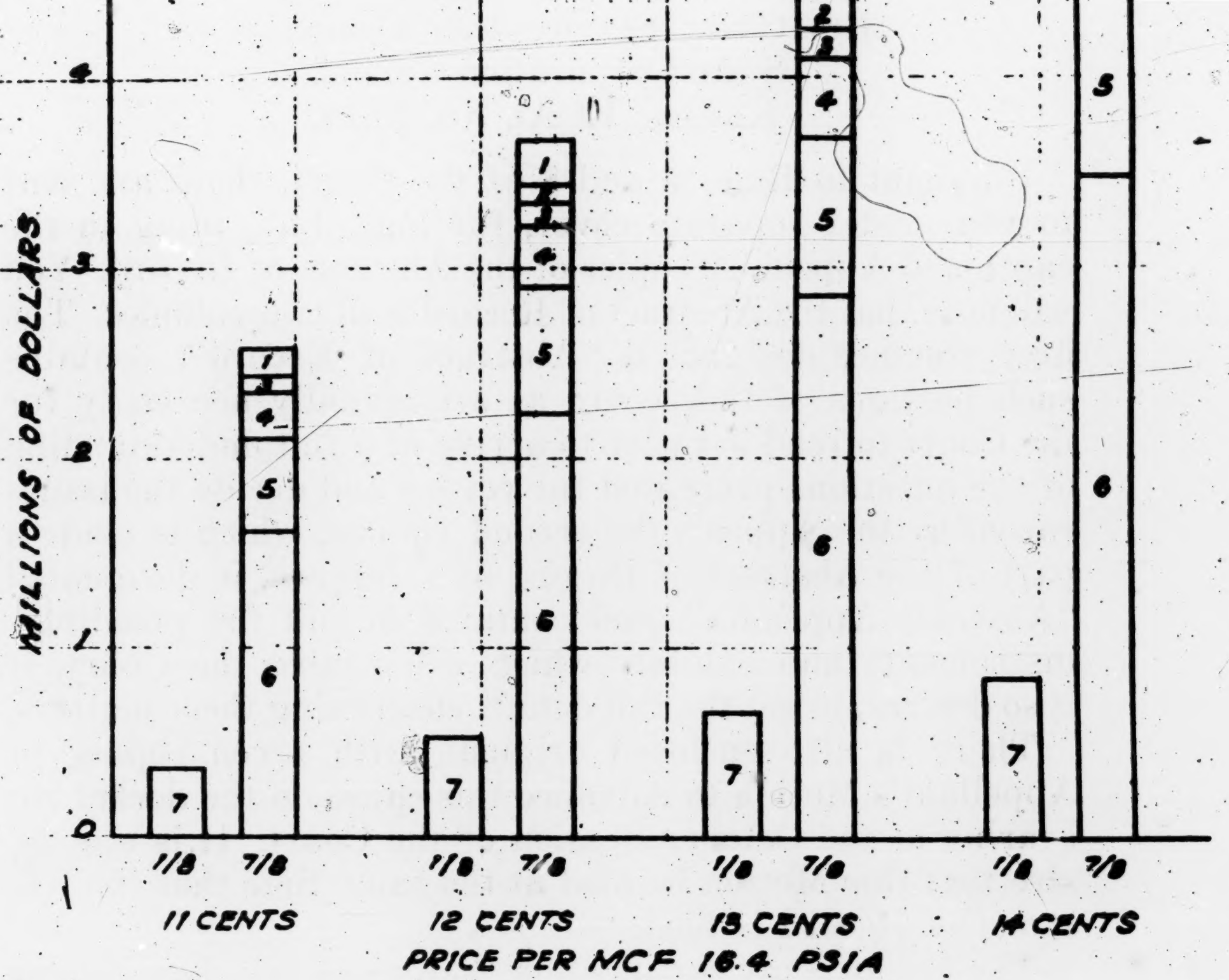
During all dates in question the Gas Company, a natural gas company as defined in the Natural Gas Act, in its operations in the purchase of gas in the Kansas-Hugoton Field purchased gas from the producers delivered at the wellhead, also delivered at its pipe line in the field after production and gathering had ended. It had no production in the field and purchased therein all gas so obtained. Of the gas so purchased during the year 1951, 55.4 percent was purchased at the wellhead and 44.6 percent pipeline delivered in the field after production and gathering had been completed.

From what has been heretofore stated it appears that the sales of gas made by producers in the field to the Gas Company, in the first instance after production had ceased and in the second after production and gathering had ended, were sales in interstate commerce of natural gas for resale for ultimate public consumption for domestic, commercial, industrial or other uses. It also appears from such record that after such sales had been completed the Gas Company placed such gas in its interstate integrated pipeline system and thereafter made resales thereof to at least some of the appellant Cities.

We now turn to facts and matters, more important to the Commission's position the judgment should be upheld, [fol. 119] about which there can be no more controversy than there is respecting those last above stated.

In Kansas, under legislation enacted to control the production and conservation of natural gas and to prohibit waste (G. S. 1949, 55-701 to 55-713, incl.) the production and distribution of natural gas for light, fuel and power is a business of a public nature, the control of which belongs to the state. See *La Harpe* v. *Gas Co.*, 69 Kan. 97, 76 Pac. 448, and *Kansas-Nebraska Natural Gas Co.* v. *State Corporation Commission*, infra, and under the sections of the statute above cited, the power to prevent waste and conserve natural gas is vested in the State Corporation Commission.

In *Kansas-Nebraska Natural Gas Co.* v. *State Corporation Commission*, 169 Kan. 722, 222 P. 2d 704, rehearing denied in 170 Kan. 341, 225 P. 2d 1054, which has never


MILLIONS OF DOLLARS
0
1
2
3
4
5
1/8
7/8
11 CENTS
12 CENTS
13 CENTS
14 CENTS
PRICE PER MCF 16.4 PSIA

been repudiated and is still the law of this state, this court held that the Corporation Commission had authority to make an order fixing the minimum wellhead price for natural gas taken from a common source of supply if the evidence before it justified its conclusion that such order was necessary in order to prevent waste and to secure the relative rights of owners of real property from which gas is produced from a common source of supply. And commencing with page 728 of the opinion rejected a contention similar to the position assumed by appellants here that since Cities Service is engaged in the business of transporting natural gas in interstate commerce it is governed wholly by the Federal Natural Gas Act and therefore the Commission had no jurisdiction to make an order similar to the one presently involved.

The Order issued by the Commission in the instant case is substantially the same as the one involved in the last above cited case (169 Kan. 722), the only difference being that the present order raises the minimum value attribution and price of gas at the wellhead for the Hugoton Field, with some variation in pounds p. s. i. a., from eight cents to eleven cents per M. c. f. and expressly provides that all persons, firms or corporations which take gas or cause gas to be taken from such field shall pay or attribute such minimum value attribution or price *as a condition precedent for withdrawal from the common source of supply.* (Emphasis supplied.)

Finally it can be stated that, inasmuch as appellants have abandoned all questions involved in the court below except the jurisdictional one heretofore mentioned, we must and do [fol. 120] assume, the evidence before the Commission was sufficient to sustain its findings to the effect the involved order, upheld and sustained by the trial court, was necessary and required in the interest of conservation and prevention of waste of gas in the Hugoton Field.

The parties are far apart in their construction of the Commission's order. On the one hand the appellants contend such order is a price-fixing order having application to sales of natural gas made by producers after its production and gathering has ended. On the other the Commission contends it is purely a conservation measure, limited to pro-

duction of gas from the common source of supply before cessation of production, which makes the minimum attribution price therein prescribed a condition precedent to the withdrawal of any natural gas whatsoever from such source. We are not inclined to labor arguments made by the parties respecting the construction to be given the order. It suffices to say, that after a careful analysis thereof, we have no difficulty in construing its terms to mean that no person, firm or corporation—first of all the producer—can lift or take gas in its natural state from the depths of the Hugoton Field to a point further than the wellhead without, as a condition precedent to its withdrawal from the common source of supply, first attributing thereto a minimum price of not less than eleven cents per M. c. f. (14.65# p. s. i. a.). So construed, recognizing as we must that under our own decisions (*Kansas-Nebraska Natural Gas Co.* v. *State Corporation Commission*, supra; *La Harpe* v. *Gas Co.*, supra) as well as those of the highest court of the land (see, e. g., *Thompson* v. *Consolidated Gas Co.*, 300 U. S. 55, 81 L. ed. 510, 57 S. Ct. 364; *Interstate Gas Co.* v. *Power Comm'n*, 331 U. S. 682, 91 L. ed. 1742, 67 S. Ct. 1482; *Cities Service Co.* v. *Peerless Co.*, 340 U. S. 179, 95 L. ed. 190, 71 S. Ct. 215; *Phillips Petroleum Co.* v. *Oklahoma*, 340 U. S. 190, 95 L. ed. 204, 71 S. Ct. 221) the Commission has power to regulate the physical production and gathering of natural gas in the interest of conservation, including the protection of correlative rights and the prevention of waste, the involved order falls squarely within the hereinafter emphasized excluding provisions of the Natural Gas Act (15 U. S. C. A. § 717 [b]) which reads:

> "'The provisions of this chapter shall apply to the transportation of natural gas in interstate commerce, to the sale in interstate commerce of natural gas for resale for ultimate public consumption for domestic, [fol. 121] commercial, industrial, or any other use, and to natural-gas companies engaged in such transportation or sale, *but shall not apply* to any other transportation or sale of natural gas or to the local distribution of natural gas or to the facilities used for such distribution *or to the production or gathering of natural gas.*" (Emphasis supplied.)

Thus, based on our construction of the order and since the Federal Act, as heretofore quoted, expressly provides that its terms shall not apply to the production of natural gas, it appears the trial court did not err in concluding the Commission's order should be upheld and sustained.

On the basis of what has been heretofore related, and without repeating it, we believe there is another sound reason for upholding the two judgments now under consideration. It is based in part on the doctrine of *stare decisis*. In *Kansas-Nebraska Natural Gas Co.* v. *State Corporation Commission*, supra, in the face of facts and circumstances so similar as to afford no sound ground for distinguishing that case and the one at bar from a factual standpoint, we held that the Commission had power, authority and jurisdiction to enter an order substantially the same as the one here involved in the interest of conservation of gas in the Hugoton Field. In our opinion that decision, which is still the law of this state, is a controlling precedent and adherence to what is there said and held requires an affirmance of the instant judgments.

It may be conceded, as appellants suggest, that by reason of Article VI of the Constitution of the United States this court is controlled by the interpretation placed upon a Federal statute (in this case the Natural Gas Act) by the decisions of the Supreme Court of the United States and that this is true regardless of views of state courts even though such decisions are in conflict with their prior decisions. Indeed no court has been more observant of this principle than our own. See, e. g., *Amalgamated Meat Cutters, Etc.* v. *Johnson*, 178 Kan. 405, 412, 286 P. 2d 182 and *Kaw Paving Co.* v. *International Union of Operating Engineers*, 178 Kan. 467, 472, 290 P. 2d 110. So we come to the last question of importance.

In an attempt to avoid the force and effect of the conclusions, heretofore announced, appellants place great weight on three comparatively recent decisions of the Supreme Court of the United States, i.e., *Phillips Petroleum Co.* v. *Wisconsin*, 347 U. S. 672, 98 L. ed. 1035, 74 S. Ct. 794; *Natural Gas Co.* v. *Panoma Corp.* (decided together with *Natural Gas Pipeline Co.* v. *Corporation Commission of Oklahoma et al.*), 349 U. S. 44, 99 L. ed. 866, 75 S. Ct.

[fol. 122] 578. Their claim in this respect is that in such decisions the Supreme Court of the United States has placed an interpretation upon the Natural Gas Act (15 U. S. C. A. § 717) contrary to our decision in *Kansas-Nebraska Natural Gas Co.* v. *State Corporation Commission*, supra, and contrary to conclusions heretofore announced by us in this opinion. It suffices to say, that after analyzing them we are unable to concur in appellants' construction thereof and have reached the conclusion that the Per Curiam opinion in *Natural Gas Co.* v. *Panoma Corp.*, supra, shows on its face that their construction of such decisions is unwarranted. So far as here pertinent the opinion in the case last cited reads:

> *"In these cases Oklahoma has attempted to fix a minimum price to be paid for natural gas, after its production and gathering has ended*, by a company which transports the gas for resale in interstate commerce. We held in *Phillips Petroleum Co.* v. *Wisconsin*, 347 U. S. 672, that such a sale and transportation cannot be regulated by a State but are subject to the exclusive regulation of the Federal Power Commission. The *Phillips* case, therefore, controls this one." (Emphasis supplied.)

Here, as we have indicated, the Kansas Commission has fixed a minimum price to be paid for gas before cessation of production. This fact in itself is sufficient to distinguish the decisions on which appellants rely and warrants our conclusion they are not to be regarded as controlling precedents.

Finally appellants contend that the trial court in rendering its judgments determined the price order in question applied to the operations of the Gas Company. We do not agree. Resort to its judgment, heretofore quoted, discloses that all it did was uphold and sustain the order of the Commission, aimed at curtailing production in the Hugoton Field and based expressly on the premise the Commission was not fixing a price for gas in the field but prescribing a minimum price for all gas at the wellhead as a condition precedent for withdrawals from the common source of supply in the interest of conservation.

One last point, not connected with the merits, requires our attention. The Commission has filed a voluminous counter abstract in two sections, claiming the amount paid for printing the entire counter abstract. Section I abstracts the evidence presented before the Commission at the hearing of the instant proceedings. Section II abstracts the evidence and proceedings before the Commission leading up to and resulting in our decision in *Kansas-Nebraska Natural Gas Co.* v. *State Corporation Commission,* supra. [fol. 123] The Gas Company has filed a motion claiming that due to the issue as limited in its abstract and brief the printing of this counter abstract was unnecessary, hence all costs incurred should be borne by the latter. Nothing would be gained by detailing the reasons responsible for our disposition of this motion. All that is required is to state our conclusion. It is that section I of the counter abstract was proper, while section II thereof was unwarranted. Therefore, since each section of the counter abstract is about the same size, we find that the Commission is entitled to make claim for only one-half of the amount expended for printing the counter abstract as costs of this proceeding.

The conclusions heretofore announced require that the judgments be affirmed.

It is so ordered.

SMITH, C. J., not participating.

APPENDIX.

MEMORANDUM OPINION. Omitted. Printed side page 59 ante.

[fol. 129] No. 40,402

IN THE SUPREME COURT OF THE STATE OF KANSAS

[Title omitted]

Service acknowledged this 26th day of December, 1956.

Charles R. Escala, General Counsel, by Richard G. Rossman, Assistant General Counsel.

APPELLANT'S MOTION FOR REHEARING

[fol. 130] Appellant Cities Service Gas Company respectfully moves this Honorable Court for an order, setting aside its opinion, decision and judgment rendered and entered in this case on December 8, 1956, granting Appellant a rehearing thereof, and upon such rehearing or otherwise, clarifying such opinion, decision and judgment so that Appellant may understand whether or not it is required to pay the producers, as applied to its operations in the Kansas-Hugoton Field, the minimum price fixed by the Kansas Commission's order, for the reasons and upon the grounds following, that is to say:

I. This Court has failed to answer the easily comprehensible federal law questions arising in the case, as applied to the operations of Appellant in the Kansas-Hugoton gas field, specifically presented by Appellant on page 2 of its Brief, namely:

"1. The Corporation Commission was without jurisdiction or authority to promulgate and issue its said minimum gas price-fixing order as applied to sales of natural gas made by producers to Appellant in the Kansas-Hugoton Field, after its production and gathering had ended, for transportation and resale in interstate commerce, for the reason that such sales are subject to the exclusive jurisdiction of the Federal Power Commission under the Natural Gas Act (15 U.S.C.A. 717).

"2. The Corporation Commission was without jurisdiction or authority to promulgate and issue its said [fol. 131] minimum gas price-fixing order as applied to sales of natural gas at the wellhead in said Kansas-

Hugoton Field, by producers to Appellant, for transportation and resale in interstate commerce, for the reason that such sales are subject to the exclusive jurisdiction of the Federal Power Commission under the Natural Gas Act (15 U.S.C.A. 717)."

II. This Court, as evidenced by its opinion and as disclosed by the uncontradicted evidence in the record, concedes on pages 6 and 7 of its typewritten opinion that Appellant is a Natural Gas Company as defined in the Natural Gas Act; that it is not a producer of natural gas in the Kansas-Hugoton gas field, but that its operations therein are confined exclusively to the purchase of natural gas from producers therein, 55.4% of the gas so purchased being delivered at the wellhead and 44.6% being delivered into its pipeline in said field after production and gathering of such gas by the producer had ended; and that the sales of such gas made by such producers in said field to Appellant, *in the first instance, after production had ceased,* and, *in the second, after production and gathering had ended,* were sales in interstate commerce of natural gas for resale for ultimate public consumption for domestic, commercial, industrial, or other uses.

III. If, as stated by the Court on page 12 of its said typewritten opinion, the price order of "*the Kansas Commission has fixed a minimum price to be paid for gas before cessation of production,*" and this fact in itself, as the Court states, distinguishes and makes inapplicable the cases of *Phillips Petroleum Co.* v. *Wisconsin,* 347 U.S. 672, 98 L. Ed. 1035, and *Natural Gas Pipeline Company of America* v. *Panoma Corporation,* and the *Corporation Commission of Oklahoma,* 349 U.S. 44, 99 L. Ed. 866, cited and relied upon by Appellant in its Brief, then it is apparent beyond any reasonable doubt that this Court, as reflected by its said opinion, decision and judgment, has decided and holds that the order of the Kansas Commission is wholly inapplicable and unenforceable as applied to the sales of natural gas made by producers in said field to Appellant because all such sales are made *after and not before cessation of production* and *44.6% of such sales are made after and not before production and gathering of such gas has ended.*

[fol. 132] This conclusion is reemphasized by this Court on the same page of the opinion, when its says: *"Finally, Appellants contend that the trial court in rendering its judgments determined the price order in question applied to the operations of the Gas Company (Appellant). We do not agree."*

IV. If, on the other hand, the order of the Kansas Commission, as the Court says it construes the same on page 9 of its said typewritten opinion, means *"that no person, firm or corporation—first of all the producer—can lift or take gas in its natural state from the depths of the Hugoton Field to a point further than the wellhead without, as a condition precedent to its withdrawal from the common source of supply, first attributing thereto a minimum price of not less than 11¢ Mcf (14.65# psia.)*," then it is apparent beyond any reasonable doubt that this Court, as reflected by its said opinion, decision and judgment, has decided and holds that the order of Commission does apply to the operations of Appellant in said field in its purchases of gas therein from producers for transportation and resale in interstate commerce, as conceded by the Court and as set forth in paragraph II above, because Appellant is a corporation taking gas from said Kansas-Hugoton Field to a point further than the wellhead therein. This conclusion is reemphasized by the Court's citation of and reliance upon its decision in *Kansas-Nebraska Natural Gas Co.* v. *State Corp. Comm.*, 169 Kan. 722, 222 Pac. 2d 704; rehearing denied, 170 Kan. 341, 255 Pac. 2d 1054. It is made even more clear in this Court's decision in *Columbian Fuel Corp.* v. *Panhandle Eastern Pipe Line Co.*, 176 Kan. 433, 271 P. 2d 773.

V. It is the unquestioned function of this Court as an appellate tribunal to distinctly, clearly and squarely decide the issues presented to it, based upon the uncontradicted facts of record disclosing Appellant's operations. A careful reading and consideration of this Court's opinion, decision and judgment discloses not only that the Court has not answered the federal questions presented, but also the Court has created an ambiguous and irreconcilable conflict as to the application of said price order to the operations

of Appellant in said field. Unless this Court grants to [fol. 133] Appellant a rehearing in this case and, upon such rehearing or otherwise, answers the federal questions presented, and clarifies and determines the applicability of said minimum price order as applied to the undisputed operations of Appellant in its purchases of natural gas in said field, then Appellant is forced to, and will assume this court has decided that said minimum price order of Commission does apply to the undisputed operations of Appellant, and Appellant is required to pay to the producer as a condition precedent to its taking and purchasing of the gas, the minimum price fixed by said order, regardless of whether such sales of gas to it in interstate commerce for resale are made at the wellhead, *after production has ceased,* or in the field, *after production and gathering has ended.*

ARGUMENT IN SUPPORT OF MOTION

In support of Appellant's motion for rehearing, the attention of this Court is directed to its own rule 6(3)(b) which requires Appellant to set forth in its brief the questions involved in the appeal, separately stated and numbered. This Appellant has done, as set forth supra. G. S. 1949, 60-3328 and 3329, specifically require this Court to pass upon *"the questions of law arising in the case."* In order to comply with these statutes and in order that this Appellant and other interested persons in the gas industry, including the bench and bar of this state, be correctly informed, this Court should squarely decide and determine the requirements of said price order as applied to the sales of natural gas involved in this case.

Natural gas when produced and reduced to possession is a commodity. It belongs to the producer when reduced to possession, is his individual property, and subject to sale by him, and may be a subject of intrastate as well as interstate commerce. *West v. Kansas Natural Gas Co.*, 221 U.S. 229, 255, 55 L. Ed. 716, 726. On page 12 of this Court's typewritten opinion, it is said by this Court that the price order of the Commission was *"aimed at curtailing production in the Hugoton Field and based expressly* [fol. 134] *on the premise the Commission was not fixing a*

price for gas in the field but prescribing a minimum price for all gas at the wellhead as a condition precedent for withdrawals from the common source of supply in the interest of conservation." As stated by the Supreme Court of the United States in *West* v. *Kansas Natural Gas Company*, supra, page 255 of the opinion:

> "In other words, the purpose of its conservation is in a sense commercial."

Compare *Pennsylvania* v. *West Virginia*, 262 U. S. 553, 67 L. Ed. 1117.

In short, this Court in its opinion concedes, as stated by the United States Supreme Court in *United Fuel Gas Co.* v. *Hallahan*, 257 U. S. 277, 281, 66 L. Ed. 234, 239, that "there is no break, no period of deliberation, but a steady flow, ending as contemplated from the beginning, beyond the state line."

When this Court concedes, as it does on pages 6 and 7 of its typewritten opinion, that substantial volumes of natural gas are purchased by Appellant for transportation and resale in interstate commerce, after production and gathering thereof has ended, it is clear that this Court by its opinion has misconceived and misconstrued not only the Natural Gas Act, 15 U.S.C.A. 717, but also the pronouncements of the Supreme Court of the United States in the cases of *Phillips Petroleum Co.* v. *Wisconsin, Natural Gas Pipeline Company of America* v. *Panoma Corporation*, and *Natural Gas Pipeline Company of America* v. *Corporation Commission of Oklahoma*, supra. These cases cannot be distinguished under any rule of logic or reason when applied to the undisputed facts of this case. If the Kansas price order applies to the operations of Appellant, then the same is invalid and unenforceable under the above authorities because the federal government, under the Natural Gas Act, has fully entered and occupied such field of regulation. On the other hand, if the Kansas price order does not apply to the operations of Appellant in the purchase of gas in said field becuause the order applies only to sales of gas made in said field before cessation of production, then this Court should hold and determine that the order is inap-[fol. 135] plicable and unenforceable as applied to Appel-

lant's operations in said field because the sales of natural gas to it by producers therein are made after and not before cessation of production.

This Court takes judicial notice of the orders of the Federal Power Commission made under the Natural Gas Act: 44 U.S.C.A. 307, *Morrison* v. *Hutchins*, 158 Kan. 123, 126, 144 P. 2d 922. Taking such judicial notice, this Court is fully aware that the Federal Power Commission by its series of "174 Orders" has taken jurisdiction of and is regulating under the provisions of the Natural Gas Act both classes of sales of natural gas as are involved in this case consisting of sales made at the wellhead and sales made at the end of gathering. Compare *J. M. Huber Corp.* v. *Federal Power Comm.*, 236 F. 2d 550. Therefore, it is clear that under Clause 2, Art. VI, of the U. S. Constitution, the Commerce Clause of the Constitution, Art. I, Sec. 8, and the Natural Gas Act the federal government has fully and completely entered and occupied the field of regulation of sales of natural gas in interstate commerce, *"whether occurring before, during or after transmission by an interstate pipeline company;" Phillips Pet. Co.* v. *Wisconsin*, 347 U. S. 672, 682, 684, 98 L. Ed. 1035, 1047-8.

The undisputed facts in the record of this case disclose that Appellant in its purchase of gas in the Kansas-Hugoton Field has entered into subsisting arms-length, privately negotiated, long-term contracts with large and responsible producers therein at prices substantially lower than that fixed by the Commission's price order. (Abs. 5-12, Abs. App. 207, Exs. 35, 36, 37, pp. 65, 67, 69). It is clear that in the *Kansas-Nebraska Natural Gas Company* case, supra, this Court affirmed a minimum price order of the Kansas Commission increasing the price of gas over and above the prices contained in subsisting gas purchase contracts and approved a fixed minimum price of 8¢ Mcf on a 16.4# pressure base. The order of the Commission in this case increases that price to 11¢ Mcf on a 14.65# pressure base, thus increasing the price of purchased gas in said field approximately 4¢ per Mcf and substantially over prices set forth in Appellant's subsisting gas purchase contracts in [fol. 136] the field. It is thus apparent that Appellant has suffered a substantial financial detriment under the order.

Conclusion

In closing, we again direct the Court's attention to its opinion, decision and judgment which merely affirms the judgment of the trial court affirming the validity of said minimum gas price-fixing order. The question is, "affirmed as applied to what?" Is it affirmed as applied to the operations of Appellant in the Kansas-Hugoton gas field or is it just affirmed without informing Appellant of its financial obligations, if any, under such order?

Appellant herein, the producers in said field, and all other purchasers of natural gas therein are entitled to be informed by this Court and Appellant respectfully requests this Court to clarify its opinion, decision and judgment in this case and frankly answer the following questions:

1. Is the purchaser of the gas in the field, after its production and gathering has ended, required under the Kansas Commission's said price order to pay to the producer-seller of such gas the minimum price prescribed by said order?

2. Is the purchaser of the gas in the field, at the wellhead, required under the Kansas Commission's said price order to pay to the producer-seller of such gas the minimum price prescribed by said order?

Respectfully submitted,

C. C. Mount, O. R. Stites, Gordon J. Quilter, /s/ Joe Rolston, 1063 First National Building, Oklahoma City, Oklahoma, /s/ Mark H. Adams, Wheeler-Kelly-Hagny Building, Wichita, Kansas, /s/ M. F. Cosgrove, National Bank Topeka Bldg., Topeka, Kansas, D. B. Lang, Scott City, Kansas,

Attorneys for Appellant, Cities Service Gas Company.

[fol. 137] In the Supreme Court of the State of Kansas

[Title omitted]

Order Denying Motion for Rehearing—January 4, 1957

Motion by appellant for rehearing is this day denied.

[fol. 138] IN THE SUPREME COURT OF THE STATE OF KANSAS

[Title omitted]

NOTICE OF APPEAL

I.

Notice is hereby given that Cities Service Gas Company, the Appellant above named, hereby appeals to the Supreme Court of the United States from the final judgment of the Supreme Court of the State of Kansas, the highest court of such state, affirming the judgment of the District Court of Finney County, Kansas, upholding and sustaining the validity of a minimum gas price-fixing order of the State Corporation Commission of Kansas for the Kansas-Hugoton Gas Field fixing a minimum price of 11¢ per Mcf. for natural gas produced and sold in said field as applied to the operations of Appellant Cities Service Gas Company, in its purchases of gas from producers therein, which judgment was entered in this action on the 8th day of December, 1956, and became final on the 4th day of January, 1957, by the Court's denial, without opinion, of Appellant's motion for rehearing.

This appeal is taken pursuant to 28 U.S.C.A. 1257 (2), 62 Stat. 929.

II.

The Clerk will please prepare a transcript of the record in this cause, for transmission to the Clerk of the Supreme Court of the United States, and include in said transcript the following:

[fol. 139] A. Abstract of record as prepared and filed by Appellant, together with the proof of service thereof.

B. Abstract appendix as prepared and filed by Appellant, together with the proof of service thereof.

C. Opinion, decision, and judgment of the Supreme Court of Kansas entered on December 8, 1956.

D. Appellant's motion for rehearing as filed, together with proof of service thereof; and

E. Docket entry or order of the Supreme Court of Kansas as entered January 4, 1957, denying without opinion Appellant's motion for rehearing.

F. This Notice of Appeal, together with proof of service thereof.

III.

The following Federal question only is presented by this appeal:

Whether the State Corporation Commission of Kansas has the jurisdiction and authority, in face of the provisions of the Natural Gas Act (15. U.S.C.A. 717, 62 Stat. 821), and the jurisdiction of the Federal Power Commission thereunder, to fix a minimum price for natural gas produced and sold in the Kansas-Hugoton Gas Field by producers therein to Appellant, a natural gas company, either at the wellhead or in said field after production and gathering thereof has been completed, or both, for transportation and resale in interstate commerce, or to prohibit the production of such natural gas by said producer, or inflict severe penalties therefor, if the price fixed by such order for such gas is not paid by the purchaser or taker thereof to the producer.

Conrad C. Mount, O. R. Stites, Joe Rolston, By /s/ Joe Rolston, 1063 First National Building, Oklahoma City, Oklahoma, Mark H. Adams, Wheeler-Kelly-Hagny Building, Wichita, Kansas, M. F. Cosgrove, National Bank of Topeka Building, Topeka, Kansas,

Attorneys for Appellant, Cities Service Gas Company.

[fol. 140] PROOF OF SERVICE

I, the undersigned, M. F. Cosgrove, one of the attorneys of record for Appellant in the captioned case, Cities Service Gas Company, and a member of the Kansas bar, depose and say:

That on the 18 day of January, 1957, I served a true copy of the foregoing Notice of Appeal to the Supreme Court of the United States on Charles Escola, General Counsel for Appellees, by delivering the same to him personally; and a true copy thereof on Don C. Smith, Special Counsel for Appellees, of Dodge City, Kansas; and Howard T. Fleeson, Wayne Coulson, and Dale M. Stucky, of counsel for Appellees, 901 First National Bank Building, Wichita, Kansas, by United States mail postage prepaid at the addresses as set forth above.

M. F. Cosgrove.

Subscribed and sworn to before me at Topeka, Shawnee County, Kansas, this 18th day of January, 1957.

Carol M. Tilton, Notary Public.

My commission expires October 2, 1960.

I hereby acknowledge service of Notice of Appeal in the above-captioned case this 18th day of January, 1957.

Charles R. Escola, General Counsel, State Corporation Commission.

[fol. 141] [File endorsement omitted]

IN THE SUPREME COURT OF THE STATE OF KANSAS

Consolidated Counter Abstract of Record—Filed August 31, 1956

Volume I

[fol. 142] INDEX TO VOLUME I

		FOLIO
A.	Proceedings Before Commission	151*
B.	Counter Abstract of Petitioner's Oral Evidence Introduced Before State Corporation Commission at Hearings Between October 20, 1952, through January 16, 1953, in Docket No. 44079-C (C-3216), Conservation Division,	152
	Testimony of T. A. Morgan	
	Direct examination by Mr. Fleeson (Oct. 20, 1952)	152
	Pipe lines, destinations, volumes of withdrawal and virgin pressures	153
	Redirect examination by Mr. Fleeson (Dec. 16, 1952),	153
	Testimony of J. G. Shattuck	
	Direct examination by Mr. Fleeson (Oct. 30, 1952)	154
	Qualifications	154
	Characteristics of gas in Hugoton field	160
	Additional qualifications	160
	Characteristics of gas from Hugoton field	161
	Peculiar qualities of gas as fuel which influence buyers	161
	Calculation of wellhead value of Hugoton gas based on equal cost with competitive fuels for residential heating	162
	Well head value of Hugoton gas based on equal cost with high-volatile coal used in stokers for residential heating	165
	Well head value based on equal cost with low volatile coal used in stokers for residential heating	172
	Well head value of Hugoton gas based on equal cost with hand-fired coals for residential heating in Denver, Detroit, Kansas City, Minneapolis, and Omaha	172

* These numbers refer to the folio numbers in brackets, e.g., [fol. 100], appearing at the beginning of lines and indicate pages of original transcript of record, as filed and numbered in the office of the Clerk of the U. S. Supreme Court.

FOLIO

Well head value of Hugoton gas based on equal cost with No. 1 fuel oil used in gravity feed burners 173
Well head value of Hugoton gas based on equal cost with No. 2 fuel oil used in forced feed burners 174
Explanation of summary of Exhibit 4 found on page 1 174
Why prices of coal and oil are used to calculate well head value of gas 176
Why residential heating fuels used 177
Additional value of liquefiable hydrocarbons 178
Relationship between price of competitive fuels and value of gas as recognized by buyers and sellers 178
[fol. 143] Relationship of well head value and conservation, 179
Relationship between well head value and efficiency of use 180
Taking of gas out of Kansas Hugoton field at less than 14 cents (16.4 p.s.i.a.) constitutes waste, 180
Cross-examination by Mr. Adams 182
Cross-examination by Mr. Cosgrove (Dec. 15, 1952), 186
Equipment considered in preparation of Exhibit 4 186
Consumer burner tip prices 192
Effect of higher well head value on use of gas 198
Effect of higher prices on use of inefficient equipment 203
Increased price to ultimate consumer not necessary to achieve conservation 206
Efficient use can be wasteful use 207
Types of wasteful use 207
Techniques available to ascertain reasonable minimum value 209
Cross-examination by Mr. Woodward (Dec. 16, 1952), 211
Higher minimum price encourages greater ultimate recovery of gas 211
Higher well head price encourages marginal development and exploration, and discourages premature abandonment 211
Higher well head price tends to protect correlative rights 211
Testimony of Thomas D. Bailey
Direct examination by Mr. Stucky (Oct. 20, 1952) 212
Qualifications 212
Exhibit 5, comparative fuel source cost study 214
No free, open, competitive market for natural gas, 215
Desirability of natural gas 215

FOLIO

[fol. 144] Exhibit 5, comparative fuel source costs 216
Explanation of Exhibit 6, comparative fuel source costs 217
Exhibit 7, history of energy costs 218
Trend of source costs of crude oil 219
Trend of source cost of coal 219
Trend of source cost of natural gas, reflecting lack of free market for well head gas 219
Explanation of Exhibit 8 220
Comparison of source costs of competitive fuels 221
Explanation of Exhibit 9, conversion chart 221
Explanation of Exhibit No. 10, basic energy equivalents 223
Explanation of Exhibit No. 11 223
Explanation of Exhibit No. 12 223
Explanation of Exhibit 13 225
Explanation of Exhibits 14, 15, 16 and 17 231
Explanation of Exhibit 18 231
Explanation of Exhibit 19, value of well head gas, ... 231
Comparative monetary returns on oil and gas wells 233
Cross-examination by Mr. Conway (Dec. 16, 1952) 240
Meaning of "price," "cost" 240
Meaning of "value" as related to competitive market 240
Relative desirability of fuels 241
Difficulties in transportation of natural gas 242
Testimony of John Ise
Direct examination by Mr. Fleeson (Oct. 21, 1952) 242
Qualifications 242
Specialization in conservation 243
Role of economist 244
Conservation as economic problem 244
Importance of natural resources 244
Natural resources not all irreplaceable 245
Irreplaceability of natural gas 245
Meaning of "waste" 246
Highest use of natural gas 246
Determination of highest use 246
Price is the only indicia we have for determining high or low use 247
Relationship between price, use and conservation, ... 247
Effect of well head price on use 248
Simplest and fairest way to prevent waste and conserve gas 248
Alternative modes of conserving gas 249
[fol. 145] Economic effect of low well head price for gas 249
Definition of free market 250

FOLIO

Natural gas market at well head not free market 251
Gas can't be stored 252
Life-of-lease, fixed-price contracts 252
Waste of natural gas 253
Interest of consumers in higher well head prices 254
Meaning of conservation and interest of consumer, ... 255
Similarity between market and price of natural gas now and timber and oil in the past 256
Value of natural gas 257
Effect of low price on rate of consumption 258
Market conditions in gas fields 258
Relative bargaining position of buyers and sellers, ... 259
Reasons for rapid exploitation 261
Measure of efficient use 262
Relationship between price, waste and conservation 263
Higher well head price now results in lower price in future 264
Source costs of other fuels and waste 265
Cross-examination by Mr. Stites
Further qualifications 265
Price and use 265
Carbon black plants and waste 266
Well head price and greater ultimate recovery 267
Interests of consumer 271
Cross-examination by Mr. Joffee 272
No competitive market 273
Domestic consumer not wasteful 273
Higher price now means lower price in future 275
Ways to conserve gas 275
Greatest good for greatest number 276
Waste in carbon black plants 278
Stimulation of invention 278
Another pipeline not feasible 278
Cross-examination by Mr. Kyle 279
Redirect examination by Mr. Fleeson 279
No free market in Hugoton field 281
Testimony of D. A. Howard
Direct examination by Mr. Stucky (Oct. 21, 1952) 281
Qualifications 281
Methods of marketing well head gas 283
Life of lease, fixed-price gas purchase contracts 284
No day-to-day mark[illegible] for well head gas 284
Relative bargaining positions of buyers and sellers of well head gas 285
New pipeline not feasible 285
Qualities of well head gas, L.P.G.'s 285
[fol. 146] Well head value of gas, factors taken into consideration 287

FOLIO

Two contracts which most nearly reflect free competitive market 289
Value of well head gas in Hugoton field 290
Hugoton Production Company—K. P. & L. contract 290
Change in contract prices since 1948 293
Colorado interstate contracts 293
Panhandle contracts 295
Northern natural contracts 296
Cities Service contracts 296
Kansas-Nebraska contracts 297
Opinion of well head value of gas in Hugoton field based on study of gas purchase contracts, ... 297
Cross-examination by Mr. Conway (Dec. 17, 1952) 298
Additional qualifications 298
Lack of free market for well head gas causes price to be fixed by buyer 299
Contracts which most nearly reflect free market 299
Hugoton Production—K. P. & L. contract—computation of price 300
Colorado Interstate-United contract 302
Quinque-Panhandle contract 302
Further qualifications 303
Why average price is not fair price 303
Commission not proper forum to litigate price provision of leases 304
Redirect examination by Mr. Stucky
Free market would meet highest price 304
Testimony of J. M. Wanenmacher
Direct examination by Mr. Fleeson (Oct. 22, 1952)
Qualifications 304
Producing horizons in Hugoton field 307
Kansas Hugoton field common source of supply 307
Drainage of gas 307
Reserves of gas in Kansas Hugoton field 309
Development of marginal acreage will increase available production 310
Factors which influence decisions to drill 310
Effect of 1949 minimum attribution order on Kansas Hugoton field 311
Well head supply greatly exceeds demand 312
Difficulty in transportation of natural gas 313
Abandonment procedures and price of gas 315
Effect of increased price on ultimate recovery .. 315
Prices in other areas 315
Price-fixing by pipe-line companies 316
Cost of manufactured, synthetic gas 316
[fol. 147] Value of well head gas in Kansas Hugoton field 317
Cost of gathering gas under Hugoton Production Company contract 317
Price and the development of marginal acreage 317

FOLIO

Cross-examination by Mr. Rolston
More marginal edge wells needed to efficiently drain field 319
Price too low to justify complete development 320
Relative bargaining position of buyers and sellers of gas 321
Marginal well study 321
Effect of price on ultimate recovery 322
Gulf Coast contracts 323
Redirect examination by Mr. Fleeson
Decrease in use of gas for carbon black after 1949 conservation order 324
Increase in domestic use after well head attribution order 325
Shutdown at carbon black plants 325
Testimony of Oliver S. Brown
Direct examination by Mr. Stucky (Oct. 23, 1952) 327
Nature of applicant, Southwest Kansas Royalty Owners' Association 327
Range of landowners royalty paid under gas leases in Hugoton field 328
Landowners never consulted regarding payments made 332
Differing royalty payments made on adjoining wells 332
Differing royalty payments made on same wells 334
Exhibit No. 29 335
Cross-examination by Mr. Conway
Number of royalty owners in Kansas Hugoton field 335
Royalty payments of Stanolind reflect value of hydrocarbons later extracted 335
Varying royalty payments 336
Cross-examination by Mr. Adams 336
Free market price establishes fair value 337
Cross-examination by Mr. Joffee 337
Effect of minimum value attribution order 337
Commission not forum to litigate controversies between lessors and lessees 338
Program of Royalty Owners Association 338
Interest of consuming public 339

C. Counter Abstract of Evidence of Cities Service Gas Company
[fol. 148] Testimony of L. C. Benne
Cross-examination by Mr. Fleeson (Jan. 14, 1953) 341
Testimony of L. H. Albus
Direct examination by Mr. Stites (Dec. 19, 1952) 356
Cross-examination by Mr. Fleeson 356
Testimony of O. Plagens
Direct examination by Mr. Stites (Dec. 19, 1952) 357
Cross-examination by Mr. Fleeson 357
Testimony of C. W. Morrison
Direct examination by Mr. Stites (Dec. 19, 1952) 358
Cross-examination by Mr. Fleeson 358

FOLIO

Testimony of Charles Fussman
Direct examination by Mr. Stites (Dec. 19, 1952) .. 359
Cross-examination by Mr. Fleeson 359
Testimony of R. T. Wells
Direct examination by Mr. Stites (Dec. 19, 1952) .. 360
Testimony of L. C. Benne
Direct examination by Mr. Stites (Jan. 14, 1953) .. 363
Cross-examination by Mr. Fleeson 363
Testimony of Charles C. Hoffman
Direct examination by Mr. Stites (Jan. 14, 1953) .. 367
Cross-examination by Mr. Stuckey 368
D. Counter Abstract of Evidence of Panhandle Eastern Pipeline Company
Testimony of C. H. Hinton
Direct examination by Mr. Adams (Dec. 19, 1952) 370
Cross-examination by Mr. Fleeson 371
Relationship between value, conservation and waste 371
Blowing of wells and leaks and effect of higher well head price 372
Relationship between value and additional development 373
Necessity for sound level of well head prices 373
Redirect examination by Mr. Adams
Conservation effect of 8-cent order 374
Recross-examination by Mr. Kyle 375
Further redirect examination by Mr. Adams 379
Further recross-examination by Mr. Kyle 379
E. Counter Abstract of Exhibits 379

[fol. 149] INDEX OF EXHIBITS

EXHIBIT NO. FOLIO

1 Basic Proration Order for Hugoton Gas Field 379
2 Hugoton Field Nominations, Oct. 1, 1952, to March 31, 1953 379
3 Gas Proration Order and Report for Hugoton Field, October 1952 379
4 Calculation of Wellhead Value of Hugoton Gas Based on Equal Cost With Competitive Fuels for Residential Heating
Wellhead Value of Hugoton Gas Based on Equal Cost with Competitive Fuels 381
Delivered Prices for Competitive Residential Heating Fuels 382
Calculation of Wellhead Value of Hugoton Gas Based on Equal Cost with Competitive Fuels for Residential Heating
High-Volatile Coal Used in Stokers 383
Low-Volatile Coal Used in Stokers 384
Hand-fired Coal
Denver 385
Detroit 386
Kansas City 387

Exhibit No.		Folio
	Minneapolis	388
	Omaha	389
	Number 1 Fuel Used in Gravity Feed Burners	390
	Number 2 Fuel Used in Force Feed Burners	391
5	Comparative Fuel Source Costs in Graphic Form	392
6	Comparative Fuel Source Costs in Tabular Form	393
7	Comparative Fuel Source, Energy Cost Curves, 1939-1952,	394
10	Table Showing Basic Energy Equivalents, Natural Gas, Crude Oil and Coal	395
11	Analysis of Energy Content and Source Cost of 1950—Mineral Fuel Production in the United States	395
12	Graphic Presentation of the Percent of Energy Supplied by Various Mineral Fuels Produced in the United States in 1950, and Showing the Percentage of Dollar Income Supplied as the Source Cost of Each Fuel	396
13	Comparative Fuel Prices in Detroit, Michigan, Using Mid-Continent Source Costs and Existing Transportation Rates to Detroit	397
14	Comparative Fuel Prices in Kansas City, Missouri, Using Mid-Continent Source Costs and Existing Transportation Rates to Kansas City	398
[fol. 150] 15	Comparative Fuel Prices in Omaha, Nebraska, Using Mid-Continent Source Costs and Existing Transportation Rates to Omaha	399
16	Comparative Fuel Prices in Minneapolis, Minnesota, Using Mid-Continent Source Costs and Existing Transportation Rates to Minneapolis	400
17	Comparative Fuel Prices in Denver, Colorado, Using Mid-Continent Source Costs and Existing Transportation Rates to Denver	401
18	Comparative Wholesale Fuel Costs, Using Mid-Continent Source Costs to 5 Cities and Existing Transportation Rates from Kansas (Summary of Wholesale Costs Listed in Exhibits 13 to 17)	402
19	Calculation of Wellhead Value of Kansas Hugoton Field Natural Gas Based on Delivered Wholesale Cost of Competitive Coals	403
25	Photocopy of F.P.C. Gas Tariff, Original Volume No. 1 of Permian Basin Pipeline Company, Together with Contract Between Northern Natural Gas Company and Permian Basin Pipeline Company Relating Thereto	405
26	Map Showing Approximate Limits of Production of Kansas Portion of Hugoton Field	405
27	Map of Grant County, Kansas, Showing Range of Well Head Royalty Prices Paid in August 1952	405
28	Map of Seward County, Kansas, Showing Range of Well Head Royalty Prices Paid November 1951 Through August 1952	405
29	Additional Information Supplied in Connection with Exhibits 27 and 28	406
49	Cities Service Gas Company Gas Reserve History	407

[fol. 151] IN THE SUPREME COURT OF THE STATE OF KANSAS

[Title omitted]

Consolidated Counter Abstract of Record

Volume I

A. PROCEEDINGS BEFORE COMMISSION

These proceedings were instituted before the State Corporation Commission of Kansas, pursuant to G. S. Kan. 1949, 55-706, on August 18, 1952, by the Southwest Kansas Royalty Owners Association, a non-profit membership corporation all of whose members are persons owning minerals in place or royalty interests in the Kansas Hugoton Gas Field and by certain individual Kansas residents owning such interests, all of whom joined in filing such petition [fol. 152] (Cities Service A. App. 2-7)* as persons interested in the enforcement of the Act Relating to the Production and Conservation of Natural Gas, Chapter 233 of the Session Laws of 1945. (G. S. 1949 Kan. 55-701 to 55-713.)

Upon due notice to all interested parties, the matter was set down for hearing before the State Corporation Commission on September 26, 1952. The matter was set down for further hearing on October 20, 1952, and the hearing was adjourned from time to time until January 16, 1953, during which time testimony was introduced before the Commission, all of the parties appearing and participating as set forth in the order dated December 2, 1953, (Cities Service A. App. 12-28) from which this review was taken. (C. A. Trial Ct. 9-10.)

---

* The Abstract of Record filed by Appellant Cities Service herein is abbreviated as "Cities Service A." Its Abstract Appendix is abbreviated as "Cities Service A. App." The Transcript of Proceedings Before the Commission is referred to as T.

B. Counter Abstract of Petitioners Oral Evidence Introduced Before State Corporation Commission at Hearings Between October 20, 1952, Through January 16, 1953, in Docket No. 44079-C (C-3216), Conservation Division

---

Testimony of T. A. Morgan.

Direct examination.

By Mr. Fleeson:

(October 20, 1952)

He is Director of Conservation of the Oil and Gas Division of the State Corporation Commission of the State of Kansas, having been in charge of the conservation division for approximately 17 years. The Kansas portion of the Hugoton gas field is within his supervision as such Director. (T. 18.)

[fol. 153] Pipe lines, destinations, volumes of withdrawal and virgin pressures

The pipe lines leading into the Kansas portion of the Hugoton field are Cities Service Gas Company, Colorado Interstate, Hugoton Production Company, Kansas-Colorado Utilities, Inc., Kansas-Nebraska Natural Gas Company, Inc., Northern Natural Gas Company, Panhandle Pipe Line Company, United Carbon Company, Quinque Oil and Gas Producing Company, and Shallow Water Refining Company. (T. 21-22.) A few of the cities to which these pipelines lead are Pueblo and Denver, Colorado, Omaha and Lincoln, Nebraska, Sioux City, Iowa, Minneapolis and St. Paul, Minnesota, Columbia, Missouri, Peoria, Illinois, Indianapolis, Indiana, and Detroit, Michigan. The amount of gas produced and sold from the Kansas portion of the Hugoton field as of January 1, 1952, was 1,768,894,978 Mcf. The amount of gas taken out of the Texas portion of the Hugoton field as of January 1, 1952, was 527,156,369 Mcf. (T. 22.) The amount of gas taken out of the Oklahoma portion of the Hugoton field as of January 1, 1952, was 895,844,735 Mcf. (Tr. 24.) The Hugoton field is among

the largest known gas reservoirs in the world. (T. 25.) There are 1,783,271 producing acres in the Kansas portion of the Hugoton field. As of October 1, 1952, there were 2,813 wells in the State of Kansas. (T. 27.) The virgin well head pressure in the Hugoton field was from about four hundred thirty to four hundred forty pounds. (T. 28.)

Exhibits 1, 2 and 3 were received. (T. 19, 20, 21.)

Redirect examination.

By Mr. Fleeson:

(December 16, 1952)

Although there have been a number of discoveries of gas within Kansas since the discovery of the Hugoton Gas Field, there have been no major discoveries. There have [fol. 154] been no discoveries of gas of major importance in Kansas in the last few years. (T. 803.) (A. Trial Ct. 29-32, C. A. Tr. Ct. 10.)

Testimony of J. G. SHATTUCK.

Direct examination.

By Mr. Fleeson:

(October 20, 1952)

Qualifications

My profession is that of consulting engineer, specializing in subjects relating to utilities operations and subjects relating to determination of costs and value in other fields. My residence is Washington, D. C. I am a graduate of Leland Stanford University with an A. B. degree in civil engineering. Following completion of that course in 1928, I spent one year in graduate work in the same University. (T. 29.)

From the time I left the University until the present, have been engaged in practice of engineering. (T. 30.) (A. Tr. Ct. 32.)

I am a registered professional engineer in the District

of Columbia. (T. 29.) For the past seven years I have practiced as a consulting engineer specializing in matters relating to public utilities and natural gas pipe lines. (T. 30.)

I was during the first year associated with E. Holley Poe. In 1946, I joined H. Zinder of Washington in the formation of H. Zinder and Associates.

In November, 1950, I established my own office. (T. 33.)

I have made studies concerning the operations, cost of service, rates, future earnings, and future sales of a number of natural gas companies and have advised them upon those subjects and others concerned with the management of the companies.

[fol. 155] The scope of my studies in this regard might be briefly summarized as relating to costs, rates, values, feasibility and market requirements.

* * * * * * *

[fol. 156] Q. What was your employment before entering the consulting engineering field? (T. 35.)

A. Beginning in 1939 I was employed by the Federal Power Commission. I was a member of its staff until the beginning of 1946.

Q. Will you describe your work during your employment with the Federal Power Commission?

A. Beginning in 1939, I was employed by the Federal Power Commission first as associate engineer, and successively held jobs of engineer, senior engineer, senior rate investigator, and principal rate investigator. The major portion of my work during the seven years with the Federal Power Commission was connected with the Commission's work with natural gas companies, and included the subjects of costs, rates, requirements, estimates and feasibility.

Among the work which I performed for the Commission was an investigation and study of the prices paid in the field by the Hope Natural Gas Company and other companies buying natural gas in West Virginia, and on other [fol. 157] matters relating to the prices of natural gas in the vicinity of West Virginia, and a study of Hope's own rates for gas sold to its affiliates. I testified on those subjects on behalf of the Federal Power Commission's staff

in connection with the Federal Power Commission's Docket No. G-100. (T. 36-37.)

• • • • • • •

Q. You mentioned the Hope Natural Gas proceeding. Is that the case that eventually went to the Supreme Court of the United States and is known as the Hope Natural Gas Company?

A. That is right. It was the first investigation of Hope's rates by the Federal Power Commission.

• • • • • • •

[fol. 158] For approximately two years during the war I was in charge of a unit gathering and summarizing data concerning natural gas supply and requirements, and concerning gas companies' transportation and production facilities in the United States.

This work was carried on by the Federal Power Commission in conjunction with and for the use of the War Production Board and the Petroleum Administrator for War. (T. 39.)

• • • • • • •

[fol. 159] In connection with this rate work, it was necessary for me to study and analyze practically every rate of natural gas companies filed with the Federal Power Commission and many others which were not. I also became familiar with the costs of gas produced by the pipe lines companies and fully familiar with the practices of such companies as regards acquisition of their gas supply through production and purchase.

I also made studies to determine the adequacy, efficiency, capacity and condition and dependability of equipment and facilities of natural gas companies and also of their operation methods.

My duties also included technical assistance to the Federal Power Commission legal counsel in matters of rates, costs, and operations in their preparation and trial of a large number of cases before the Commission during the period of my employment.

• • • • • • •

[fol. 160] I have become generally familiar with the gas fields of the Southwest, including the Hugoton Field. (T. 42-43.)

In 1942 as a member of the Federal Power Commission's staff I did work for that Commission in connection with the investigation of the rates of Panhandle Eastern Pipeline Company. At that time I became familiar with the operations of Panhandle Eastern in the Hugoton Field and in a general fashion with the operation of other companies in the same field. My work both for the Federal Power Commission and since has involved companies taking gas from the Hugoton Field. As a source of gas for their operations I have been generally acquainted with the position of the Hugoton Field as a supply for those pipe lines. (T. 43.)

Characteristics of gas in Hugoton field

The Hugoton Field gas is a mixture of hydro carbon gases and nitrogen. In general it is referred to as a dry gas, since the heavier hydro carbon gases which make up natural gasoline and liquified petroleum are not present in large amounts. Of the total (T. 43) volume from ten per cent to twelve per cent is non-combustible. Nitrogen makes up almost all of this. (T. 44.)

Additional qualifications

I have had practical experience in the production, transportation and sale of natural gas to consumers and have had experience in its use of gas in the natural gas industry. (T. 44-45.) I have constantly advised clients in the negotiation of gas sales contracts. I have been at the Hugoton [fol. 161] Field. (T. 45.) My practical experience in connection with production has been as a consultant and observer for the Commission. I have taken a specific part in the application of gas in many circumstances, such as in industry in boilers, in power plants, in making fertilizers and other uses. (T. 46.)

I have helped negotiate contracts for the sale of gas to factories. (T. 46-47.)

I have done engineering work in connection with the use of gas for a number of my clients, including work that a utilization engineer would do. (T. 47.)

Characteristics of gas from Hugoton field

Continuing on the constituents of Hugoton Field Gas, carbon dioxide is present as an almost negligible fraction of the total volume. The largest fraction of the combustible gas is methane, which is between 25 per cent and 70 per cent of volume. Ethane makes up approximately 6 per cent of the total volume. The remainder is composed of propane and heavier hydro carbons. In general the heating value of a cubic foot of Hugoton gas of 60 degrees Fahrenheit and a pressure of 14.735 pounds per square inch absolute is a little above 1,000 b. t. u. per cubic foot. (T. 48.)

However, samples having larger than normal amounts of nitrogen will have a heating value below 900 feet b. t. u. per cubic foot. Most of the gas of Hugoton Field is processed before entering the pipe lines both for the removal of moisture and for the removal of heavier hydro carbon fractions. As it enters the pipe line it has a heat content between 970 b. t. u. and 990 b. t. u. per cubic foot. (T. 49.)

Peculiar qualities of gas as fuel which influence buyers

As to the qualities of natural gas as a fuel, apart from its heat content and price, which influence purchasers of gas, [fol. 162] Gas is selected over other fuels principally because it produces no ash, soot or smoke, it requires no storage space on the consumer's premises. Your equipment to utilize gas costs less and is simpler and it is paid for after use, rather than before. (T. 49.)

* * * * * * *

It requires no storage facilities and no investment in fuel prior to use.

Many industry processors prefer to use natural gas because the control of its result or application is much easier and more accurate. (T. 51.)

Calculation of wellhead value of Hugoton gas based on equal cost with competitive fuels for residential heating (Ex. 4)

Q. Have you made a study of the value of natural gas in the Hugoton Field by comparing its value in the market place with that of other fuels with which it competes?

A. Yes, I have.

My study, reflected in Exhibit 4, shows that based upon the price of competitive fuels in Denver, Detroit, Minneapolis, Kansas City, and Omaha, natural gas has a calculated value at the well head in the Hugoton Field of from 16.1 cents per Mcf to more than a dollar per Mcf at 16.4 pounds per square inch absolute.

These figures do not take into consideration the value, if any, of the liquefiable hydrocarbons in well head gas. My study contemplates the removal of such hydrocarbons to the extent that it is now practiced in the Hugoton Field. [fol. 163] I have assumed that the hydrocarbons are to be removed as it is now being done in practice and that the sale price of the liquids removed equals the cost of removal. (T. 67.) If the receipts for the sale of liquids exceeds the cost of removal then the gas at the well head is worth more than I have shown in my exhibit.

I have determined the cost of the heat realized for residential heating from coal and from oil in these five cities. Then I have determined the value of gas delivered at that consumer's residence that would give him the same cost of realized heat that he now obtains from coal or oil.

The cities used are cities which receive gas from the Hugoton Field and represent a large part of consumption of Hugoton gas taken out of Kansas.

An example of how the exhibit has been prepared might be described, using, say, $18, as a coal cost per ton, delivered to the house. The first calculation I make is to determine what that cost is per b. t. u., for $18 per ton that is about $.64 per million b. t. u. The householder gets about 55 per cent of these b. t. u.'s in the coal converted into heat in his house. That makes the heat in his house cost about $1.17 per million b. t. u. If (T. 68) this customer were to use gas instead of coal for his heating he

would, of course, need the same b. t. u. put into his house to get it as warm as he does with coal.

I use the term realized heat in this exhibit to mean the amount of the heat converted from the fuel to heating the house, whether he burns coal, gas, or some other fuel, the end product, as shown here, is described as realized heat, and the universal measure of the heat is b. t. u., or British Thermal Unit.

By efficiency of use, I mean that not all of the fuel consumed—not all of the fuel goes into heating the house. Some of it is consumed in the process and is not transferred to house heating.

[fol. 164] The factor of efficiency as used in this exhibit means the part of the total fuel that actually comes out of the furnace and heats the house. (T. 69.)

If you heat the house with gas, the total b. t. u.'s of gas which you need to buy are different than the total amount of b. t. u.'s of coal which you will need for heating the house. This is because the efficiency of the use of the two fuels is different. For example, the efficiency of gas use would be about 78 per cent as contrasted with the efficiency of coal use of about 55 per cent. Using this 78 per cent efficiency we can determine that if the consumer paid about 91½ cents per million b. t. u. for gas to heat his house the cost of the realized heat would be the same $1.17 per million b. t. u. which he would have paid at $18 coal for heating his house.

I get from the well head to the consumer's premises by determining the margin which the distributing and pipe line companies get from handling the gas from the well head to the consumer.

It is not a judgment figure. It represents the actual practice and operations of the pipe line and distribution companies. (T. 70.)

I have taken the actual margin between their purchase price and their sale price to indicate the margin which they collect for handling the gas.

This margin that I refer to which I deduct includes all profits and return on investment actually made by these companies, from well head to burner tip. It includes the

transportation, wholesaler as well as distribution companies.

I did not make a judgment as to what they ought to get for transporting and distributing gas. (T. 71.)

I did not make a judgment as to whether what they got was fair and reasonable, with the exception that I assumed that the regulatory agencies were doing their job, but I did [fol. 165] not examine these margins to see whether they made two per cent or 15 per cent.

I made three computations. The first computation was to determine how much the residential consumer paid for his gas at the burner tip. To do so I estimated the amount of gas he would need; I examined the rate schedule, and computed the gas at the rate schedule, and computed the gas at the rate schedule at the appropriate level of consumption.

The second calculation was to determine what the distributor paid for the gas from the pipe line. That was done in the same fashion, to determine what the rate applicable was and calculate the price to be paid.

The third calculation was to determine the cost rather than price of the gas at the field. Two margins were calculated in each case. The first was the margin that the distributing company collects which is the difference between the burner tip rate or the city gate or the pipe line company's rate to the distributor. The second margin which was calculated was between the pipe line company's rate as a selling rate and the cost of (T. 72) the production and gas received as an input to the pipe line.

The sum of those two margins is the figure that I have taken here to be delivery cost of gas.

Well head value of Hugoton gas based on equal cost with high-volatile coal used in stokers for residential heating (Ex. 4, p. 3)

I will take page 3, column E. Anything that I will say here would apply to any column on any page of 3 through 11. In line 2 of the exhibit I have entered the heating value of the coal in million b. t. u. per ton. That shows how good the coal is. It shows how much heat it contains

in it. In line 3, I have entered the delivered coal price in dollars per ton, reported for July 15, 1952. (T. 73.)

I am looking at page 3 which is for high volatile coal used in stokers for residential heating.

[fol. 166] That July date was a rather recent date. It represented a low, if there was to be a seasonal variation. I didn't compare it with other dates, but used a single date to have a consistent origin of price throughout the exhibit.

• • • • • • •

Line 3 is the delivered coal price in dollars per ton. Line 4 contains a calculation as to the delivered coal price in cents per million b. t. u. Using column E as an example, the $11.21 in line 3 has been divided by the 25 million b. t. u. per ton in line 2 to obtain the 44.8 cents in line 4. In line 5 is the efficiency of coal use stated as the per cent realized in heating the house. It is in this column 65 per cent.

You get out of high volatile coal 65 per cent of use if used in a stoker. (T. 76.)

• • • • • • •

Line 6, 6-A, 6-B and 6-C on certain sheets is comparable to Line 6 on the other sheets. Using page 3 as the example, the entry in Line 6-A of 68.9, the cost of the fuel for [fol. 167] realized heat in cents per million b. t. u., was computed by dividing the entry of 44.8 in Line 4 by .65, which is the efficiency of coal use reduced to a fraction. Where there are no Line 6-A, 6-B and 6-C, the entries in Line 6 are computed in the same way.

The entry in Line 6-B represents the cost of stoker and its operation in cents per million b. t. u. and is $.55 in Kansas City. That figure reflects the added cost of a coal-fired stoker burning appliance over and above the cost of operating—I beg your pardon—of owning and operating a gas-fired appliance of generally the same type. That $.55 per million b. t. u. represents an annual cost of $55, divided by an annual consumption of 100,000,000 b. t. u.

I am using Column E throughout. (T. 78.)

Where there is no stocker or where there is no oil burner there is no entry on Line 6-B or Line 6-C. Line 6-C is the total of Lines 6-A and 6-B on the sheets where that occurs, and in this sheet is 123.9 cents.

In Line 7 the efficiency of gas use is entered in per cent, being 78 per cent, which would be common to all gas use in this exhibit. In Line 8 is the calculated value of delivered gas in cents per million b. t. u., the figure being 96.6 in Column E, and it has been computed by multiplying the entry 123.9 in Line 6-C by .78, the efficiency of use reduced to a fraction.

This efficiency of gas use and the 78.0 figure applies to a good gas-burner for either boiler (T. 79) or hot air furnace. It has no reference to the efficiency of gas used for cooking, or for water heating or for refrigeration. Only for residential house heating. This has nothing to do with the efficiency of gas-burning appliances which gas may be used for industrial purposes. (T. 80.)

In Line 9 is entered the delivery cost for the gas, being the sum of the margins actually received for handling the gas by the distributors and the pipe line companies. In [fol. 168] this case 78.2 cents per Mcf. Referring to that as to Kansas City, that would be the delivery costs of the gas company who furnishes Kansas City. That is based on their actual experience. In Line 11 is entered the difference of Lines 8 and 9, or 58.4 cents per million b. t. u., representing the value of the amount of gas which it is necessary for the pipe line company to receive at the entrance to its pipe line in order that the distributor deliver a million b. t. u. to its consumer. (T. 81.)

Referring to Exhibit 4, Page 3, Line 9, Column E, the 38.2 figure is the margins received by the distributing company and the pipe line company in handling the gas between the well head and the burner tip. That is not the city gate price.

It is the sum of two figures. One figure is the difference between the burner tip rate, and the city gate rate, that is the margin of the distributor, and to that is added a second margin, which is the difference between the pipe line sales rate and its cost of gas. Those two margins cover the (T. 82) cost of handling the gas between the well head and the burner tip added. I would term that delivery cost. That is the difference between the cost and the selling price of both the wholesaler and the retailer of the gas. It does not include the cost of the gas at the well head.

That is the only thing it does not include. If the pipe line purchased it at the gasoline plant instead of the well head, I do not have the costs here. (T. 83.)

In Line 12 the figure in Line 11, which is for a larger amount of gas than a million b. t. u., since it takes that amount to deliver at the consumer's burner tip, has been converted to 52.6, representing the (T. 85) comparable figure for an exact one million b. t. u. as it enters the pipe line.

I established my variation between Line 11 and Line 12, by comparing the amounts of gas received into the pipe [fol. 169] line as contrasted to the amount taken out of the pipe line and by a nominal allowance for the amount going into the distributing system as contrasted to how much goes out.

* * * * * * *

I used an over-all factor of 1.11, which would be requiring 1,110,000 b. t. u. at the input of the Cities Service System to deliver 1,000,000 b. t. u. at the burner tip. (T. 87.)

Line loss and unaccounted for free gas is 4.6 percent on the transmission line to the city gate. It is 5½ percent from the city gate to the burner tip. (T. 87.)

I understand free gas to be gas given to properties around the wells as a function of the negotiations to obtain the leases and rights-of-way. That isn't a very large item. (T. 88.)

In Line 14 is entered the value in cents per Mcf of 57.7, being the conversion from the entry of 52.6 in line 12, reflecting the content of the gas per Mcf as compared with million b. t. u., and also reflecting any loss in volume due to gasoline plant operations.

In line 15 the figure of 51.5 is the value at well head for a pressure of 14.65 pounds per square inch absolute, computed in the same manner.

I am referring to the value of gas at the well head based [fol. 170] on equal cost with high volatile coal used in stokers for residential heating. As to the b. t. u. content I used in my conversion in lines 14 and 15, it was different for each company. (T. 89.)

* * * * * * *

[fol. 171] Factors omitted which if included would show even higher value of gas at well head

Page 3, lines 14 and 15, shows the value of gas at the well head. I have not considered in these calculations all of the factors with reference to the use of gas. I have selected for use in these calculations only such factors as can be readily evaluated and have omitted the others. One omitted is the higher cost of maintenance and the shorter life of appliances fired with gas. A second one is the higher cost of the installed equipment to utilize coal or oil as contrasted to the cost of appliances which use gas. There is a difference in cost between appliances which use coal and oil and the cost of appliances which use gas, in addition to the burner or stoker and cost which I have included. (T. 94.)

A third one is a labor cost for handling coal from its storage point to the appliance. Taking the coal out of the bin and putting it over in the stoker, for instance, for page 3. If it were on page 5 or 6 where it is hand fired it would be the entire process of getting it into the burner. Another is the labor cost for the removal and disposal of the ash from the appliance. That is the completion of that cycle of handling the fuel. I am referring, in a coal burner, to the ashes, the removal of the ashes from the stoker and transporting them to wherever they are taken.

Another is the extra charges for the delivery of coal based upon carrying it into the basement and other special charges that are made (T. 95) on top of listed coal prices. In coal you have to carry it, there has to be somebody, labor, to carry it from the street to the basement. The coal companies have regular charges for that, and it is not occasionally, it is quite often. Another factor that is not included is the cost of maintaining storage for the coal or oil. The cost of providing a room or bin for the coal in the basement. (T. 96.)

[fol. 172] The effect of including any of the factors which I have omitted would be to raise the well head value of the gas. They are all costs which I have omitted in the technique of the exhibit down to the figure arrived at, and each one, if included and evaluated, would raise that figure. (T. 97.)

Well head value based on equal cost with low volatile coal used in stokers for residential heating (Ex. 4, p. 4)

Page 4 of the exhibit is a similar set of calculations to show the calculated well head value based upon equal cost with low volatile coal used in stokers for residential heating. I have taken a different kind of coal. I have used low volatile coal because it is considered a preferable coal for heating in that it doesn't produce as much smoke, and in some cities, such as Detroit, is specified by ordinance. In other cities it is permitted. In only two cities have I shown it because those are the only two I could obtain quotations for a satisfactory grade of coal. On the basis of the low volatile coal used in stokers for residential heating, the value of gas at the well head based on Kansas City for 16.4 pounds per square inch, absolute is between 43.8 based on Minneapolis and 65.4 based on Kansas City. (T. 98.) Again in this exhibit I haven't included in my calculations any of the factors previously mentioned. This applies to every sheet, three to eleven.

Well head value of Hugoton gas based on equal cost with hand-fired coals for residential heating in Denver, Detroit, Kansas City, Minneapolis, and Omaha (Ex. 4, pp. 5-9)

Pages 5 through 9 are each devoted to a separate city, because I had so many types of coal to use that I put each city on a separate page. On page 5 is shown a similar calculation for equal cost of residential heating with hand fired coal, and this page is entirely devoted to the City of Denver.

Page 6 is the same as page 5, except it is for the City of Detroit. The value of gas at the well head on page 5 is [fol. 173] between 34.3 and 39.8 for a pressure base of 16.4 p. s. i. a. (T. 99.) And between 30.6 and 35.5 on a pressure base of 14.65. Page 6 figures relate to Detroit for hand fired coal. Page 7 is a similar calculation for hand fired coal based upon Kansas City prices. Page 8 contains similar calculations for hand fired coal based upon Minneapolis prices.

The Minneapolis page shows gas delivered at the burner tip. (T. 100.) Delivers costs, line 9, is the cost of handling the gas between the well head and the burner tip, in the one figure in line 9, which is 64.6 cents per 1,000,000 b. t. u. for Minneapolis. Line 8 is the line that is the value of the delivered gas at the burner tip. (T. 101.) The figure of $1.50 or 150 cents as shown in line 6 on page 8 is the cost of the heat within the residence, not of any fuel. My figure in line 14 converting back would come to $1.50 for the same number in terms of gas if gas were selling (T. 103) at 50 and a half cents at the well head. The cost of delivery wouldn't change materially even though the well head cost of the gas was increased. (T. 104.)

Well head value of Hugoton gas based on equal cost with No. 1 fuel oil used in gravity feed burners (Ex. 4, p. 10)

Page 9 shows similar calculations for hand-fired coal, based upon prices in Omaha. Page 10 shows similar calculations based upon the cost of heating with No. 1 fuel oil used in gravity fed burners for the five cities, Denver, Detroit, Kansas City, Minneapolis, and Omaha. On the basis of the cost of fuel oil in these particular cities, the well head value of (T. 105) gas would vary from 96.6 to 126.8 at a well head pressure of 14.65. At 16.4 it would have a value ranging from $1.08 plus to $1.42 per Mcf.

[fol. 174] Well head value of Hugoton gas based on equal cost with No. 2 fuel oil used in forced feed burners

Page 11 shows calculated well head values based upon equal cost with No. 2 fuel oil used in force-fed burners based upon the prices in the five cities, Denver, Detroit, Kansas City, Minneapolis and Omaha. As to the difference between No. 1 fuel oil and No. 2 fuel oil, it is the weight of the oil. No. 2 fuel oil is the oil most generally used in heating houses. (T. 106.)

Explanation of summary of Exhibit 4 found on page 1

As to which of these fuels or modes of heating reflected in my exhibit are in any wise comparable to natural gas, the one most nearly comparable is oil heating. The next

is the stoker-fired coal. In my opinion hand-fired coal is not at all a fair comparison. Based upon oil, I have found the range of well head values for a pressure base of 16.4 pounds per square inch absolute is between 52.1 cents and 142 cents per Mcf and 142 cents. (T. 107.) The summary of the exhibit is found on Page 1 as to the different cities. Based upon stoker fired coal, for a pressure base of 16.4 pounds p. s. i. a., the range between 35.1 cents per Mcf and 65.4 cents per Mcf. The labor costs of coal which have been omitted represent a real cost, and if I could have included them, I would have done so. It would have made a higher well head value for gas. These values result from using as a base fuels most nearly comparable to natural gas. (T. 108.)

The exhibit does not entirely reflect the advantages which gas has over these other fuels. I can't evaluate these advantages in terms of money. For one reason, they have a different value to different customers because of income level. One man may elect to shovel coal into a hand-fired furnace. His labor market may be different, too, and he may want to do it himself. As to other facts that give it [fol. 175] a different value, than others, (T. 109) the range of values I arrive at from using as a base hand-fired coal (which I do not regard as not being a fair comparison for a pressure base of 16.4 pounds per square inch absolute) is between 16.1 cents per Mcf and 64.7 cents per Mcf. Considerable labor is omitted in hand-fired coal installations. (T. 110.)

Page 1 of Exhibit 4 is a summary of the calculations from Pages 3 through 11. It is arranged to be segregated by stoker-fired coal, hand-fired coal, and oil. The upper half of the sheet, Lines 1 through 5, are the calculated values in cents per Mcf for a pressure base of 16.4 pounds per square inch absolute. The lower half, Lines 6 through 10, are the similar figures for a pressure base of 14.65 pounds p. s. i. a.

On Page 2 is shown the delivered prices in cents per million b. t. u. for the competitive residential fuels, coal, oil, and gas. The figures have been taken from Lines 4 of the Pages 3 through 11, and it is prepared to summarize and show for ready comparison those (T 111) calculations

which are scattered through the Pages 3 through 11. Not all of those prices have been entered, only the high and low of each.

The ratio of the gas price to the coal and oil prices are calculated and shown in Columns E and F. This page has two purposes: First, is to bring the price for fuel in these five cities into a single table for convenient examination and comparison; the second purpose is to show the ratio of the gas price to the prices of the competitive fuels as a rough yardstick to indicate whether or not gas is priced in the market. These ratios shown on Page 2, on Exhibit 4, indicate that gas is underpriced in the Market.

Because of the relative price of gas to coal and oil, many of these show that gas has a delivered price less than coal and oil. Some of them are slightly higher. It is the experience of gas companies that they can attach business, [fol. 176] residential heating business, to their system, when the ratio (T. 112) of delivered gas price is well above that of the competitive fuel.

This is so because it is a better fuel, and for the reasons that I have mentioned as to the desirability of natural gas, as a source of energy. That applies also to the efficiency of its use. All of those factors I have enumerated enter into that desire on the part of the consumer for gas over other fuels.

Why prices of coal and oil are used to calculate well head value of gas

I used the price of coal and oil to calculate the value of natural gas at the well head in the Hugoton Field because coal and oil as heating fuels are not regulated as to price in the ordinary sense of regulation, except for the effect of the Office of Price Stabilization regulations. Coal and oil may adjust their prices according to the needs dictated by competition. (T. 113.)

Coal and oil prices represent a naturally arrived at level for such prices in an open market. On the confrary gas prices are set by governmental authority, taking into account various factors of cost of service, which hardly ever, if at all, reflect the competitive effect of higher prices of competing fuels. If gas prices were not so regulated they

would tend to follow other prices for competitive (T. 114) fuels to the extent that the cost of producing and marketing them would permit. By taking the level of coal and oil prices, I obtained a value for gas, which would allow gas to be sold in the market at a competitive price rather than at a regulated price. Nevertheless, most consumers are willing to pay a premium above the cost of other fuels to use natural gas. This is particularly true of gas for household uses and for special industrial processes. I have observed it in their willingness and doing so over a period of time.

[fol. 177] I am in the business of pricing gas. (T. 115.) For about 13 years I have been actively doing it every day, and before that occasionally for the previous 4 or 5 years. I am doing it for transmission companies and for sellers of gas. That is what is actually happening. I am occasionally doing it for the purchasers of gas. (T. 116.)

* * * * * * *

Why residential heating fuels used

Residential heating fuels have been selected as the fuel used which most nearly represent the marginal sale (T. 119) of natural gas among the uses for which natural gas is especially suitable and valuable. In most areas gas is considered so superior to coal and oil for cooking that the latter are seldom used where gas is available. Coal and oil are still used for domestic water heating by customers who use gas for cooking, but the majority of potential customers apparently feel that a gas-fired water heater is highly desirable and probably considered a necessity.

As the conveniences for the home have become more common and as the hot water consumption of the home has increased to a point of acquiring a ready source of hot water a gas-fired water heater has taken the place as a necessity since it is the best means of providing automatic hot water service in the home. Until about the beginning of World War II natural gas for residential heating was generally in competition with other fuels for that purpose. However, the expansion of the old and the building of new natural gas pipe lines, together with the resulting lowering or the holding steady of the average cost of service of

[fol. 178] natural gas by government regulation has caused natural gas prices to fall (T. 120) far below their normal competitive level.

House heating is the use of fuel for which either of the three fuels can be satisfactorily used, whereas cooking with coal and oil has many inconveniences and drawbacks, and water heating with coal or oil is either highly inefficient or lacks the inconvenience of being automatic. All of this puts the residential heating use as a place to determine the marginal value for natural gas, that is, where real competition begins.

Additional value of liquefiable hydrocarbons

My exhibit did not take into effect the value, if any, of liquefiable hydrocarbons which are in well head gas. (T. 121.)

I did not give any effects in any calculation in Exhibit 4 to the value of the b. t. u.'s removed. These additional b. t. u.'s have a value. If they can be marketed as gas along with other gas, they would add to the calculated value an incremental value of about 1 per cent of the calculated value shown in Exhibit No. 4. This is in the range of ⅓ cent to above 1 cent per Mcf. If they are marketed through extraction as liquids they have an additional value of between ¼ cent to a little over ½ cent per Mcf, over and above the value of the residue gas.

The value which I have stated here as between a quarter and a half cent is a net value. (T. 122.) The gain over and above the cost of removal. Under present operating conditions such incremental amounts should be added to the well head value of gas shown on the exhibit.

Relationship between price of competitive fuels and value of gas as recognized by buyers and sellers.

Buyers and sellers of gas in their negotiations recognize the relationship between the price of competitive fuels and the value of gas. The primary effect to be noted is that [fol. 179] where there is no government regulation the price of gas is set at or near the cost of the next fuel with specific allowances for the advantage which natural gas might have

for the particular application. In long-term contracts oftentimes automatic following provisions are put in. Where the price of gas is regulated by governmental authority provisions are (T. 123) sometimes made which allow for the rate to be increased with the price of the competitive fuels which are sold on the open market that vary.

There are cases where governmental authorities allow the price to follow a competitive fuel. (T. 124.)

Relationship of well head value and conservation

Q. From your experience and study and from your knowledge of the gas field, do you have an opinion as to whether or not the gas price of gas at the well head has any relation to or connection with conservation of gas as a natural resource? In other words, has the price of gas at the well head got any relation to the conservation of natural gas?

A. Yes, I do. (T. 126-127.)

There is a very definite connection between the rate of consumption of natural gas and the price at which it is sold. Since the well head price is a factor in the final price at the point of consumption, there is also a relation between the rate of consumption of gas and the well head price. This relationship of price in use is such that if the price is unnecessarily low the gas will be put to uses that are without any considerable return or effect and are thereby wasteful. The price for gas which will conserve that gas for its best return to its owners is that price which will keep it from being sold or consumed for uses in which the use of the gas does not give a full return of its true value. In the present market for natural gas the use of gas to fire large boiler installations is oftentimes an uneconomical use of gas since there is sufficient demand for gas for purposes of which natural gas is peculiarly suited and which other fuels will not supply the need to the same degree. A low well head price will tend (T. 127) to create a low price at the point of consumption, which in turn will allow uses to be made that will not make the same return to the owners of the gas as if a higher well head price is set which will deter a low sales price at the point of consumption.

[fol. 180]

Relationship between well head value and efficiency of use

Q. Is it your observation that the price of gas has any relation to or bearing upon the efficiency with which it is consumed?

A. The price of gas has a definite effect upon the utilization of natural gas. When prices are low there is no economic incentive to buy good equipment and to take other steps to obtain the maximum heat from the gas. This is because there is little or no saving to be made through the improvement in utilization. As the price increases steps are taken to reduce the amount of fuel consumed by improving the efficiency of use both through improved combustion and through other measures such as installation in connection (T. 128) with space heating.

Higher prices also tend to improve the arts in that there is an incentive to produce more efficient burning equipment and to reduce the amount of fuel given for a needed operation. When prices are low this improvement in the art has little or no monetary value, and it is not often undertaken merely for the sake of an intangible higher efficiency. Thus, lower prices tend to increase the amount of fuel used for any given operation.

Taking of gas out of Kansas Hugoton field at less than 14 cents (16.4 p. s. i. a.) constitutes waste

In my opinion the taking of gas out of the Hugoton field in Kansas at a price lower than 14 cents on a 16.4 pressure basis of measurement constitutes waste in the ordinary meaning of the word. (T. 136.)

[fol. 181] Well head prices in the range of prices presently paid in the Kansas Hugoton Field beginning at 8¢ per Mcf and ranging upward to about 14¢ per Mcf, as requested by the applicants in this proceeding, are not sufficiently high to eliminate wasteful use (T. 136) of natural gas at the point of consumption.

* * * * * * *

If in a minimum price order, a producer is required, or a pipe line company is required, to make the attribution of the minimum price, that accomplishes the same thing.

* * * * * * *

Taking into account the locations of the presently known gas reserves in the North American continent, the remaining quantities of gas in and near the Hugoton Field and between the Hugoton Field and the natural gas markets which use its gas, the size of the available market for premium (T. 147) service residential and industrial gas, it [fol. 182] is my opinion that the value of Hugoton gas at the wellhead cannot be less than 20¢ per Mcf at 16.4 pounds p. s. i. a. and is probably much higher (T. 148.)

• • • • • • •

The higher price would tend to eliminate certain of the lower price sales which would be replaced by the increases in gas sold for better applications as a total market for natural gas increases. (T. 147.)

My testimony of value relates to the Kansas-Hugoton gas. (T. 148.)

• • • • • • •

Cross examination.

By Mr. Adams:

• • • • • • •

[fol. 183] Q. Do you know of any recent contracts which are farther removed from market than the Hugoton Field, which reflect a 20 cent Mcf price?

A. Yes, I do. (T. 152.)

Exhibit 4 received in evidence. (T. 164.)

Further direct examination.

Explanation of Permian Basin Pipeline contract, Exhibit No. 25

I acquired Exhibit No. 25 as a copy of the files of the Federal Power Commission in the matter of an application of Permian Basin Pipeline Company for a certificate of convenience and necessity.

The proposal was made on behalf of Permian Basin Pipeline Company. (T. 289.)

Exhibit No. 25 was received in evidence. (T. 298.)

• • • • • • •

[fol. 185] That proposed contract, if effected, would mean a range of prices on gas per Mcf on the pressure basis I mentioned from 20 to 29 cents to be determined upon the volume that is taken. (T. 304.)

Q. Is gas worth more closer to market or is it worth more where it is farther removed from market?

A. It is worth more the closer to market it is.

Q. Is gas taken from the Kansas portion of the Hugoton Field through Northern's lines closer to market than gas taken from Western Texas and the eastern part of New Mexico?

A. May I refer to the map, please, sir?

Q. Or from Skellytown, Texas, rather.

A. The gas taken into Northern's system from the Hugoton Field is closer to market than gas taken into Northern's system at Skellytown.

Q. And as a result of that would the gas be worth more from the Kansas portion of the Hugoton Field than it would if the gas was taken into the lines at Skellytown?

A. The gas taken into Northern's system in the Hugoton Field would be worth more than gas taken into Northern's system at Skellytown. (T. 306.)

* * * * * * *

[fol. 186] Cross examination.

By Mr. Cosgrove:

(December 15, 1952)

Equipment considered in preparation of Exhibit 4

I restricted myself in my exhibit to those additional pieces of equipment which are necessary with oil, for example, and not necessary for gas such as an oil burner and a tank. I did not take into account any of the costs of gas burning furnaces or oil-burning furnaces or boilers. To [fol. 187] avoid doing so I assumed that they would be equal costs as far as the results of my study. (T. 637.)

I used installations that were comparable in cost, and assumed them also to be comparable in performance. (T. 640.)

I assumed that you would get as much performance out of the dollar invested in the coal-burning furnace as you would out of a gas-burning furnace. I will admit that is to the detriment of the gas value, but that is what I did to simplify my problem. (T. 641.)

• • • • • • •

[fol. 192] Consumer burner tip prices

The residential consumer paid at the burner in Detroit, 78.3 cents per million b. t. u., Denver 45.2 cents per million b. t. u., Kansas City 45.2 cents per million b. t. u., Minneapolis 72.4 cents per million b. t. u., Omaha 70 cents per million b. t. u.

• • • • • • •

[fol. 198] Effect of higher well head value on use of gas

Q. Now, Mr. Shattuck, you stated on Page 104 of the transcript—that you believe that the cost of delivery of gas couldn't change materially even though the well-head price of gas was increased. If I understand other portions of your testimony correctly, it is your theory that an increase in well-head price will tend to reduce what I believe you refer to as lower class users of gas? (T. 698-699.)

A. A higher well-head price will tend to eliminate certain low price sales of gas. I believe that says yes in answer to your question.

Q. What classes of users do you have in mind when you said there they should be discouraged?

A. Those that pay low prices for the gas.

Q. Would that be industrial and particularly interruptible industrial?

A. Yes, it would.

I don't necessarily consider them as being a lower class [fol. 199] of service except as they are not an economic or appropriate use for gas. (T. 699.)

• • • • • • •

[fol. 203] Effect of higher prices on use of inefficient equipment

Q. Could it be that the profit motive alone tends to make industrial users install efficient equipment?

A. Where the gain in profit is rather small the incentive sometimes is overlooked or thought not worth the attention, whereas if that incentive is motivated by the actual value of the waste, then it is usually the case that that additional work and study and design results in better utilization.

Q. Isn't it a fact that most industrial users are now [fol. 204] using the most efficient means known to the industry for the burning of gas in boilers?

A. I haven't made a survey that would lead me to that conclusion.

Q. You wouldn't know anything to the contrary, would you?

A. Yes, I have seen some that should be improved. (T. 713.)

* * * * * * *

[fol. 206] Increased price to ultimate consumer not necessary to achieve conservation

Q. And is it not a fact, then, under your theory that for the purpose of preventing waste an increase in price to the ultimate consumer is far more important than an increase in the price at the well head?

A. No, that doesn't follow because there are advantages to be gained by raising the price at the well head that do not occur if you raise the price between the well head and the consumer. (T. 740-741.)

Q. Then would you say that if the price was increased at the burner tips and not at the well head that that still might accomplish conservation?

A. That would accomplish part of the conservation that should be strived for but would not accomplish all of it. (T. 741.)

* * * * * * *

[fol. 207] Efficient use can be wasteful use

Q. Do you consider the efficient use of gas for light, fuel, for carbon black manufacturing, for repression or for chemical or other processes by which gas is efficiently converted into gas or other substances as wasteful?

A. The use of gas for light has almost gone. It probably is not an efficient use under present day—— (T. 744.)

Under some circumstances as a fuel I consider efficient use of gas is wasteful. As far as carbon black, that depends upon many circumstances. In the wartime we had to have carbon black for purposes for which no substitute was available. At that time I wouldn't consider it wasteful. However, I believe that as the price of gas raises in the various producing areas that other means of providing that carbon black will be discovered and as soon as they become equal in quality then the use of gas for any carbon black will be wasteful. (T. 745.)

Repressuring is not wasteful because it is not consumed and still available for consumption at a later date. Use of gas for chemicals is not wasteful use by any means. (T. 746.)

Types of wasteful use

Q. What is the type of wasteful use that you are talking about that prevails under the present range of well head [fol. 208] prices that you had reference to in your answer there as read to you?

A. The principal one is the use of gas for making steam in large boiler installations where another fuel can be used to do that at a lower over-all cost to our economy. (T. 751.) Also that had to do with the development of the field, the marginal acreage, which it is highly important to obtain a sufficient return at the well head to allow the development of the edges of the field to recover all of the gas in the strata. That also would not necessarily take place in the marginal areas of the Hugoton Field at eight cents and would tend to do so at higher prices. (T. 752.)

Kansas consumption of gas exceeds its rate of discovery

Q. Do you know of any other particular advantage that Kansas may have over the industrial east other than perhaps more abundant gas or more abundant space? Insofar as attracting industry is concerned.

A. I think the use of the word "abundant" gas is not necessarily correct. (T. 755.) I don't believe that you should use that in connection with the Kansas gas supply

HUGOTON GAS FIELD ON GAS FIELD

EXHIBIT No. 16

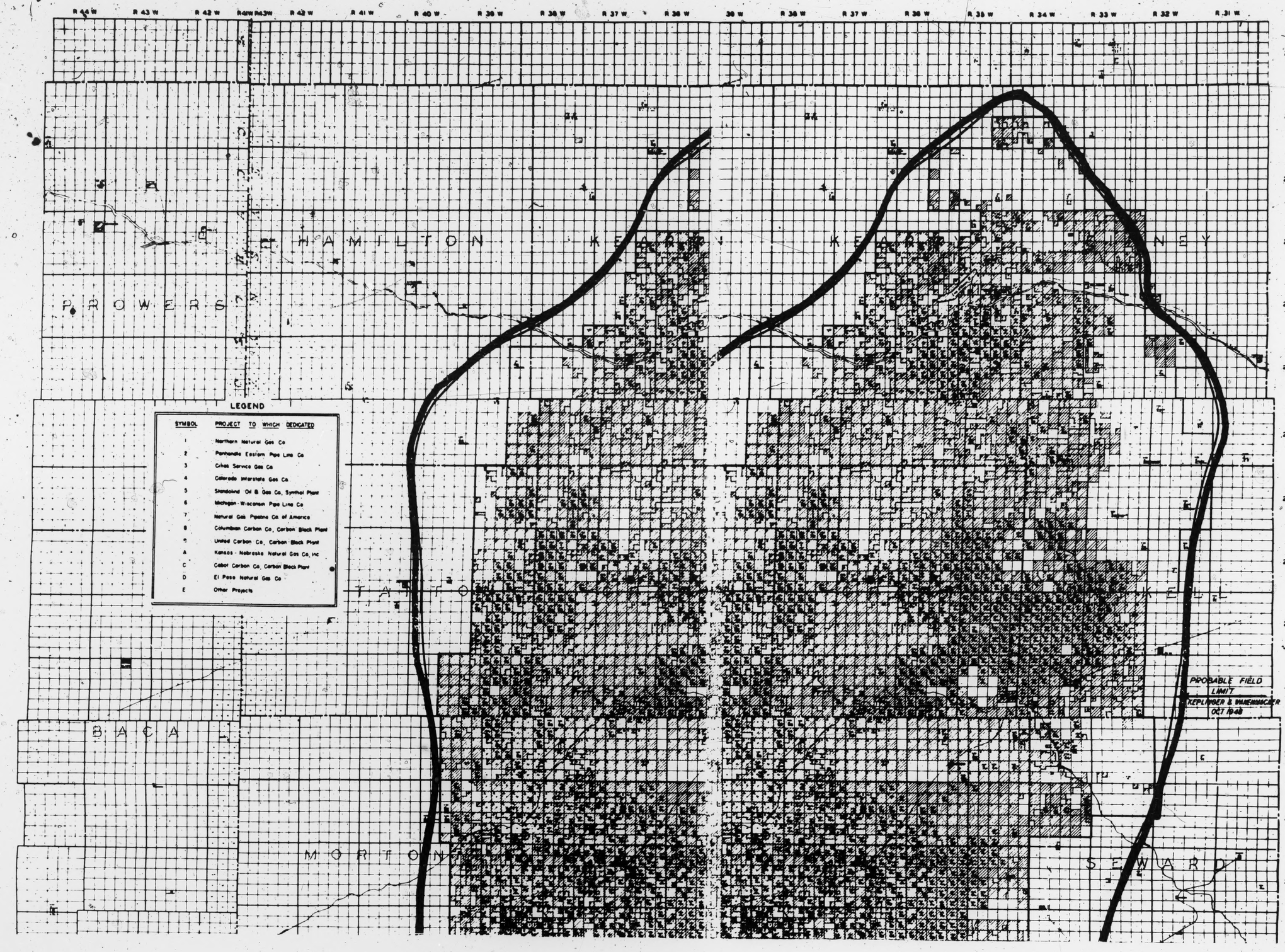


EXHIBIT No. 26

Pioneers Office Leg.

STANDARD FORM GAS PURCHASE CONTRACT

WELL DELIVERY

The undersigned Seller, in consideration of One Dollar ($1.00) in hand paid, receipt acknowledged, hereby sell and agree to sell and deliver at the wells to Panhandle Eastern Pipe Line Company, Buyer, and the Buyer agrees to receive in the usual conduct of its business suitable with other producers in the same field having gas in the same producing horizon or sand, and in accordance with approved practice in the industry, all the sulphur free merchantable gas in its natural state as produced (except casinghead gas) from wells now drilled [redacted] on the following described premises, situated in Stevens County, Kansas, to-wit: The Northeast 1/4 of Section 16, Township 35 South, Range 38 West, and the Northwest 1/4 of Section 1, Township 35 South, Range 38 West, and the Southeast 1/4 of Section 29, Township 34 South, Range 38 West.

during the term of the present lease hold thereon or any renewal thereof and as long as gas is produced therefrom in paying quantities, reserving gas for fuel requirements to develop and operate said premises, after using all casinghead and other gas which cannot be used by Buyer.

Buyer shall not be required to take gas when same cannot be delivered in commercial quantities and at sufficient pressure to enter its lines against the varied working pressure therein, [redacted] nor continue connection with such wells after same become unprofitable to it.

Buyer to install meter and necessary equipment; to have easement for installing and maintaining same on Seller's lease, if desired, with right of removal before or within reasonable time after expiration of contract; to have right to inspect and test wells; to regulate flow of gas at mouth of wells or point of delivery to meet fluctuating conditions of Buyer's market; to begin construction of gathering lines within four months after acceptance of contract by Buyer and approval of title and complete same with due diligence, [redacted]

Seller warrants title to gas and right to sell same and that it is clear of liens and adverse claims; to have right to inspect meter in presence of representatives of Buyer and to ask for test and witness same; to properly equip wells for safe and efficient operation; to keep producing wells in good condition and at all times connected to Buyer's lines except when disconnected for repairs; to furnish Buyer abstract of title to land and copy of lease and any requested information regarding drilling records or well equipment.

Payment shall be made on Division Order furnished by Seller, on or before the 25th day of each month following the month in which such gas is delivered at the price of Three (3) cents per thousand cubic feet on pressure basis of 16.4 pounds per square inch absolute pressure agreed upon for the purposes of this transaction and at a temperature assumed and agreed upon for the purposes of this transaction at sixty degrees (60°) Fahrenheit. Buyer shall have right to withhold payment, without liability for interest, pending approval of title and termination of adverse claims.

Meter measurements found to be in error more than three per cent shall be corrected and accounts adjusted accordingly, but period of adjustment shall not exceed thirty days preceding test.

All production, severance or other excise taxes imposed or levied by the state or any other governmental agency upon the gas as produced, sold or delivered hereunder shall be paid by Seller. In the event Buyer is required to pay such tax, the amount thereof shall be deducted from any sums becoming due to Seller.

If at any time six or more persons shall become entitled to receive payments for gas hereunder, Buyer may withhold and suspend payments then due or thereafter to become due until all persons having any interest therein execute and deliver to Buyer an instrument in writing satisfactory to Buyer designating and appointing a Trustee with authority to collect and receive all payments for benefit of all parties owning an interest therein.

Buyer shall not be obligated or required to purchase and receive gas hereunder which does not conform to the standards of purity and quality prescribed by any duly constituted regulatory body or authority in the state or states wherein said gas is intended to be resold or distributed or which does not have a total heating value of at least 950 British thermal units per cubic foot, calculated at a pressure of 30 inches of mercury and 60° Fahrenheit.

Contract subject to present and future orders, rules and regulations of duly constituted authorities having jurisdiction, and to causes, accidents and occurrences beyond control of parties; shall run with the land above described and the leasehold estate or other interests of the parties, and shall bind the heirs, personal representatives, successors and assigns of the parties.

It is agreed that the aforesaid price of three (3) cents per one thousand cubic feet to be paid by Buyer for gas purchased hereunder shall remain in force and effect until such time as one (1) cent per thousand cubic feet of gas purchased and received by Buyer hereunder equals the sum of $13,495.00, being the sum agreed upon as the labor cost of constructing the necessary gathering lines to connect Seller's wells with Buyer's existing pipe line. Thereafter the price for all gas purchased and received by Buyer hereunder shall be increased to four (4) cents per one thousand cubic feet.

Seller

PIONEER PETROLEUM COMPANY

By [signature] President

ATTEST: John D Woodfin Secretary

Seller

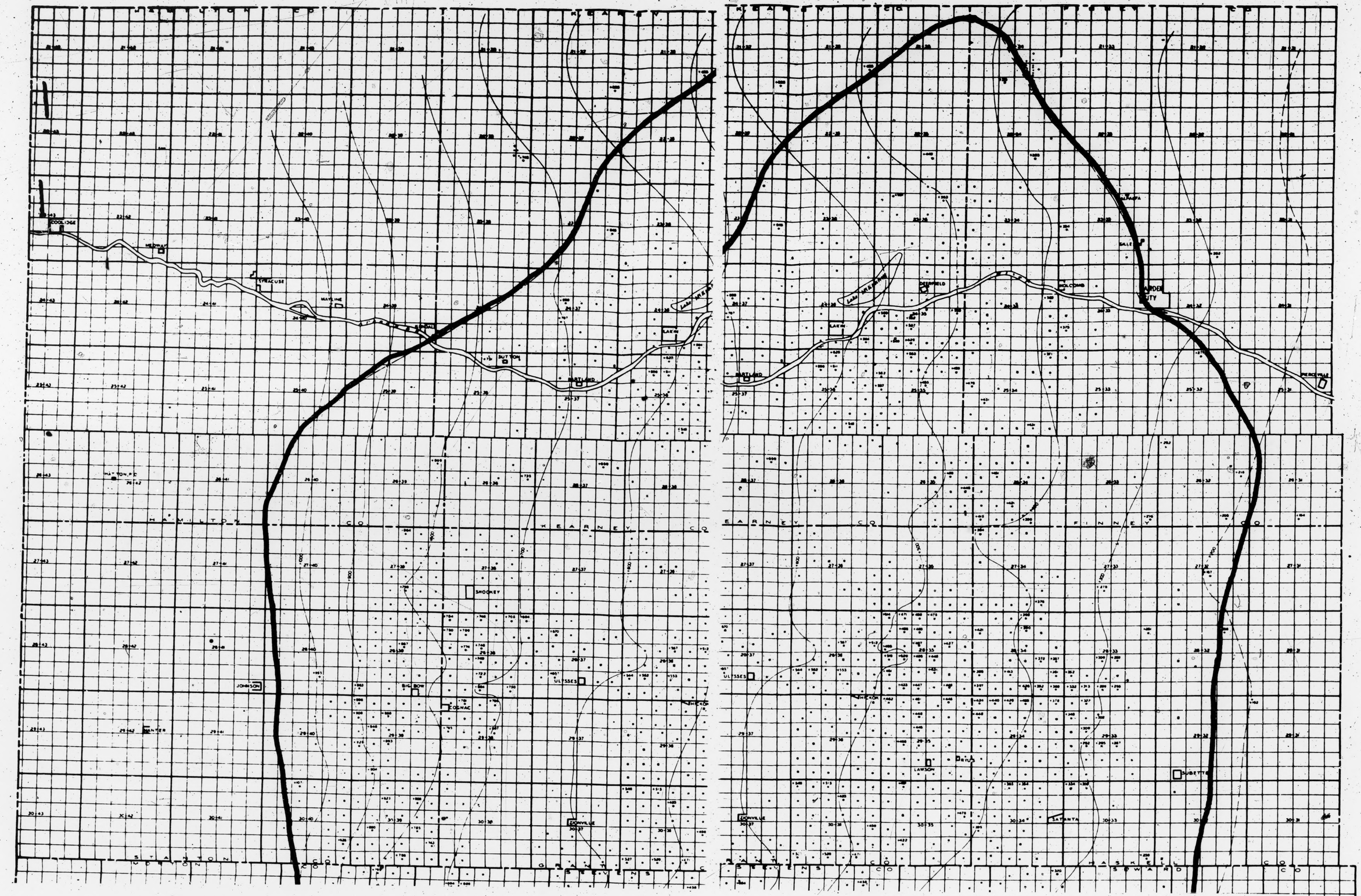
Assistant Secretary

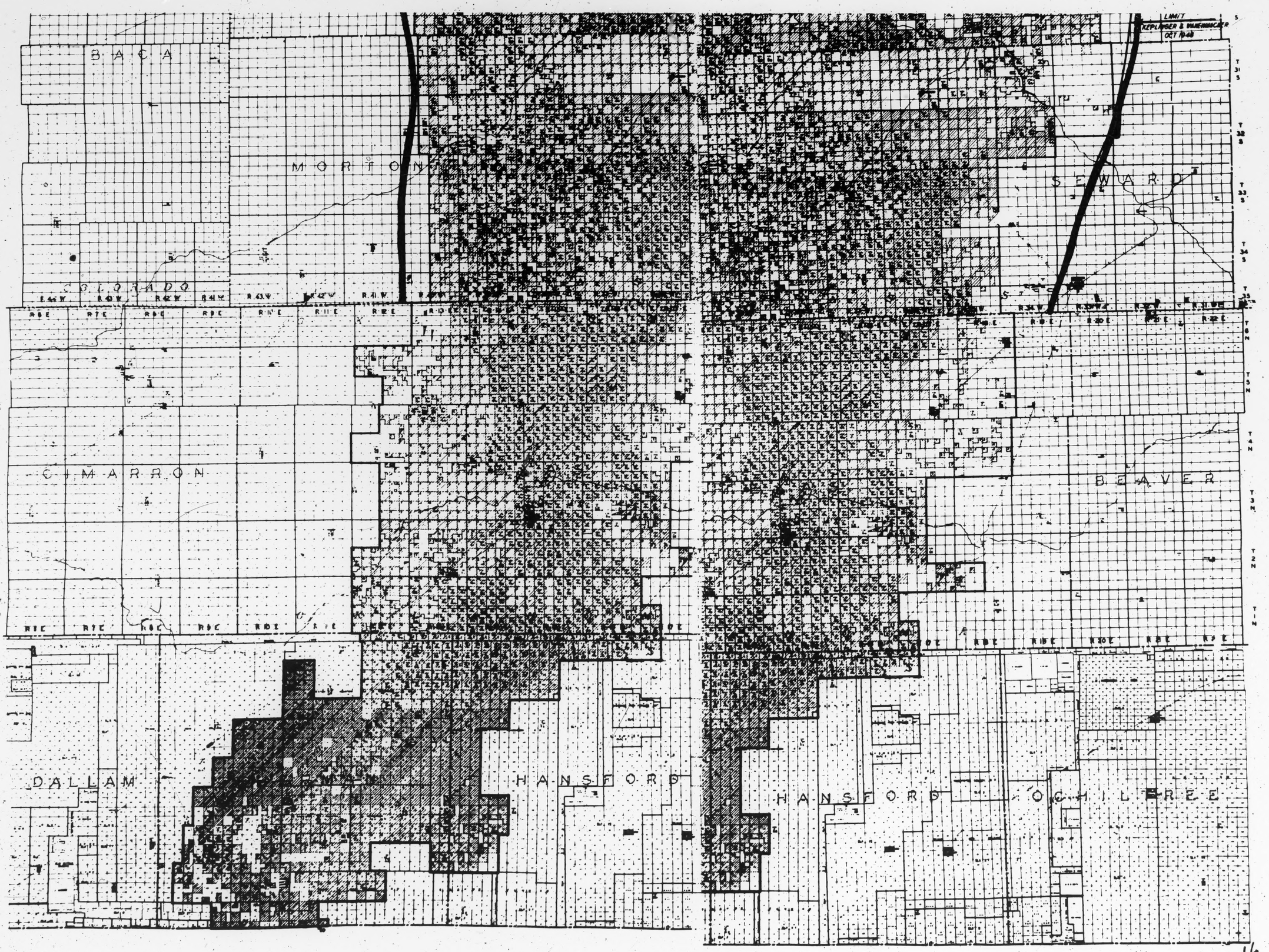
PANHANDLE EASTERN PIPE LINE COMPANY
Buyer

Date accepted by Buyer.....

By .....
Vice-President

EXHIBIT 15


COOLIDGE
MEDWAY
SYRACUSE
WAYNE
SUTTON
BARTLAND
LAKIN
DEERFIELD
HOLCOMB
GARDEN CITY
SAKA
SALEM
MERCIVILLE
HAVILAND
JOHNSON
MANTER
SHOCKEY
BIG BOW
ULYSSES
COGNAC
SHERON
LAWSON
SUBETTE
SATANTA
KEARNEY CO
FINNEY CO
HAMILTON CO
STANTON CO
GRANT CO
HASKELL CO



KEPLINGER AND WANENMACHER
KENNEDY BLDG., TULSA, OKLA.

MAP OF
HUGOTON GAS FIELD
KANSAS & OKLAHOMA

Scale — 1" = 2 miles

- LOCATION
- OIL WELL
- GAS WELL
- DRY HOLE
- MECHANICAL FAILURE
- TOP OF KRIDER

CONTOURS ON TOP OF KRIDER
INTERVAL - 100 FEET

KEPLINGER AND WANENMACHER
PETROLEUM ENGINEERS
KENNEDY BUILDING
TULSA, OKLAHOMA

EXHIBIT NO. 15
State Corporation Commission

OCT 19 1948

DOCKET NO. 35,154-e
REPORTER

because your rate of discovery has not been as high as your rate of consumption for some time. I am talking about the Kansas situation. You are gradually utilizing your local sources in order to have this abundant supply, but in doing so you are having sooner or later to go beyond your own state to find gas. (T. 755-756.)

* * * * * * *

[fol. 209] Techniques available to ascertain reasonable minimum value

Q. Is there any formula or mathematical method of computation to arrive at what is a reasonable minimum field price of gas in the Kansas Hugoton Field of which you have knowledge?

A. There are techniques rather than formula which would allow by a study of the sales now being made, utilization of the gas now in progress, to determine a level to accomplish various degrees of conservation.

Q. What is the test which a body such as this Commis-[fol. 210] sion could use to determine the reasonableness of a minimum field price for the Kansas Hugoton Field?

A. Well, I can only imagine myself in their place and tell you the tests I would use.

Q. I would like to have you state them.

A. I would determine to the best of my ability what the price or minimum price or wellhead value is which would discontinue the obvious wasteful use of gas, I would make a study of the types of use now existing on the various pipe lines, taking gas from, in this case, the Kansas Hugoton Field. I would also determine what the value of that same gas would be if it were used in an obviously beneficial use for which no other substitute were quite so good and applying that second value against the first, if that eliminated the wasteful uses and created no harmful impact upon the economy of the state and of the nation I would apply the higher value, the value arrived at from a beneficial or valuable use.

If it did have a harmful effect one would have to modify it to the extent to eliminate that; if, on the other hand, it had no harmful effect and you applied it and did not gain the result, then you would know the so-called wasteful use had merely been a use applied at a price well below

the price they would have been paying and that you had been throwing away a valuable resource at a price below its value.

Q. As I take it from your testimony, then, the only way that that could be determined by the Commission, that is, what was a reasonable minimum field price would be by trial and error, is that right?

A. No; a great deal of it could be done on paper ahead of time. (T. 771-772.)

[fol. 211] Cross examination.

By Mr. Woodward:

(December 16, 1952)

Higher minimum price encourages greater ultimate recovery of gas

Q. Assuming, as some experts have testified in this case, I believe, that the remaining life of the Hugoton Field is something in the neighborhood of 25 years, what is the fact as to whether or not a higher price would tend to encourage the fullest ultimate recovery of the field?

A. A higher price would tend to encourage higher recovery. That is practical conservation.

Q. Mr. Shattuck, I don't know that I thoroughly understood your answers yesterday with respect to whether or not the Commission's 8 cent minimum order had any particular effect. Did you say it had no effect on conservation?

A. No, no, I did not. (T. 791-792.)

Higher well head price encourages marginal development and exploration, and discourages premature abandonment

An increase in price at the wellhead encourages marginal development in the gas field. A higher price at the wellhead discourages premature abandonment of marginal wells. A higher wellhead price certainly encourages exploration and development of new fields and new wells within a field. (T. 793.)

Higher well head price tends to protect correlative rights

My understanding of correlative rights is briefly this, that it permits each and every mineral right owner or owner of royalty to obtain as nearly as possible a fair share of the production and the return from the production in the field. (T. 794.)

Based on my understanding of correlative rights a minimum price tends to encourage the maintenance of those correlative rights because it narrows the range between the lower and higher prices paid in the field.

[fol. 212] All of these things I have just enumerated, marginal development of the field, discouragement of premature abandonment, and the encouragement of exploration and development and the protection of correlative rights, are all conservation measures as I understand conservation. (T. 795.)

The development of additional wells helps increase the total take from the field in that it opens up portions of the producing horizon that would otherwise be produced imperfectly.

Without the higher prices those wells would not be drilled because they would not pay an adequate return on the speculative and investive portions of the enterprise. So in the total over-all production from the field more is obtained when you have a higher price and drill more wells.

More gas is obtained and produced. That is conservation in that you do not waste any by leaving it in the ground unnecessarily. (T. 799.)

Exhibits 4 and 25 received in evidence. (T. 164 and T. 298.) (A. Tr. Ct. 32-51, C. A. Tr. Ct. 10-66.)

Testimony of THOMAS D. BAILEY.

Direct examination.

By Mr. Stucky:

(October 20, 1952)

Qualifications

I live at 725 Northeast Fifteenth Street, Oklahoma City, Oklahoma. I am a consulting engineer and consultant.

I have a B. S. degree in petroleum engineering from Oklahoma University.

• • • • • • • •

[fol. 213] I am a registered petroleum engineer in the State of Oklahoma. I have written articles for publication in scientific or trade journals. One of them is Energy Basis Comparison of Field Source Cost, published in the Oil & Gas Journal, May 12, 1949.

Another one is Casing Corrosion in Oil Fields Producing Sour Gas published in the Oil & Gas Journal in the year 1942, and then I wrote a report on Natural Gas in Northwest Arkansas, printed in the 1943 edition of Petroleum Development Technology published by the Petroleum Division Institute of the Mining & Metallurgical Institute of Engineering. (T. 168.)

• • • • • • • •

I have made a study of the value of various fuels at their sources. This study began approximately three and one-half years ago. I made that study to show the comparative values between the source cost of different fuels.

The result of my studies were finally published in an article in the Oil & Gas Journal.

I later made a study of the comparative values between source costs of different fuels and brought the previous study up to date. (T. 169.)

• • • • • • • •

[fol. 214] Exhibit 5, comparative fuel source cost study

I have prepared various exhibits showing the result of this study. Exhibit No. 5, which I have prepared, is a chart which depicts graphically the comparative field source cost per million b. t. u. energy content between various types of fuels.

Source cost is the cost at the wellhead for gas, at the mine for coal, at the well for crude oil, and at the refinery for the refined products. (T. 171.)

I use per million b. t. u. energy content because that is the only common denominator by which various fields can be readily compared, one with another, such quantities as barrels of oil, tons of coal, and thousands of cubic feet of gas cannot readily be compared with one another as to

energy content, besides at present almost everybody who figures in large volumes of fuels discusses them in energy content figures or b. t. u. costs and values per million b. t. u's.

The b. t. u. has the same heating value whether it is in the form of coal or oil or some other fuel. In all cases it represents the same amount of energy. (T. 171-172.)

• • • • • • •

This exhibit is designed to show the comparative source cost of various fuels. The various fuels are each graphi- [fol. 215] cally shown as colored vertical bars in the chart, arranged in the order of their relative desirability, that is, in my opinion the order of their relative desirability. (T. 173.)

As you move from left to right, why, they are more desirable. The most desirable is on the right.

I have taken gas at the wellhead. I took coal at the mine. I took crude oil at the wellhead. (T. 174.)

The costs shown on the chart are as of September 3, 1952. Mid-continent cost on crude oil and refined products, September 3, 1952, United States cost on coal and natural gas. (T. 175.)

No free, open, competitive market for natural gas

There are current quotations for all the fuels except natural gas published regularly in various publications, trade journals and magazines. (T. 175.)

There is no such publication reflecting the price of natural gas because natural gas is not on a free, open and competitive market like the other fuels.

The present price of natural gas is estimated from my study of data available and past trends of the average wellhead prices paid for marketed production of natural gas in the United States by years, from 1939 to 1951, inclusive, as given in the mineral year books and mineral market reports of the mineral industry surveys United States Department of Interior, Bureau of Mines. (T. 176.)

Desirability of natural gas

Natural gas is the most desirable fuel in practically every instance where it can be used, and the reason is that it has

many inherent qualities that make its use much desired in most all cases. Among these qualities are: one, higher efficiencies can be obtained in all cases with very few exceptions over other types of fuels; two, the fuel is easy to handle and requires no storage on the premises because it is delivered at the time it is used; third, it is a clean fuel [fol. 216] which forms but little smoke and no ashes as it burns; four, it is adaptable to minute variations in control, and almost constant or steady temperatures can be obtained when using natural gas, thereby making it very desirable in many manufacturing industries where even, automatically controlled temperatures are needed; fifth, its compressibility quality makes it easier and less expensive to transport large quantities of this energy over long distances to far away energy consuming markets.

There are many other fine qualities which all together tend to make natural gas the most desirable of all fuels. (T. 177-178.)

Exhibit 5 does not take into consideration the relative efficiency of these various fuels. Natural gas in almost all cases is the most efficient where a choice of fuel is available. (T. 178.)

Exhibit 5, comparative fuel source costs

The scale on the left-hand margin of this chart shows the energy cost at source in cents per million b. t. u.'s.

The source cost of coal at the mine is 18.4 cents per million b. t. u.'s for bituminous and lignite.

The source cost of crude oil at the wellhead is 43.7 cents per million b. t. u.'s.

The present average source cost in the United States of natural gas is 8.06 cents per thousand cubic feet, which calculates out to be 7.68 cents per million b. t. u.'s. (T. 178-179.)

If the wellhead price or cost of natural gas in the Kansas Hugoton Field were 14 cents on a 16.4 basis of measurement, the calculated cost would be 12.30 cents per million b. t. u.'s, which is considerably lower than the source cost of any other competitive fuel.

The wellhead price of natural gas in the Kansas Hugoton Field, before it would be equal to the source cost of

any comparative or competitive basic form of fuel, would [fol. 217] have to be 20.948 cents per Mcf on a 16.4 p. s. i. a. pressure base to be equivalent to the cost of coal, would have to be 49.751 cents per Mcf on a 16.4 p. s. i. a. pressure base to be equivalent to the cost of crude oil, and would have to be 16.80 cents per Mcf on a 16.4 p. s. i. a. pressure base to be equivalent to the cost of residual No. 6, which is not really a competitive field in regards to space heating of homes. (T. 179.)

Explanation of Exhibit 6, comparative fuel source costs

Exhibit 6, my Table 1, shows how the comparative field source cost as of September 3, 1952, were calculated.

* * * * * * *

[fol. 218] Exhibit No. 5 is a graphic representation of the tabulated data found in Exhibit 6. Exhibits Nos. 5 and 6 were received in evidence. (T. 182.)

Exhibit 7, history of energy costs

Exhibit 7, my Figure No. 2, is a graph which shows the comparative source cost of energy contained in various forms of fuels over a period of approximately 14 years. It differs from Exhibit No. 5, as it shows the comparative source cost of fuel energy for various points in time on down through the years. Exhibit No. 5 merely depicts the comparative costs at one point in time, namely, September 3, 1952. (T. 182-183.)

Exhibit No. 5 simply shows the last points on the curves on Exhibit No. 7.

Exhibit No. 7 covers from January 1, 1939, to September 3, 1952. The scale on the left-hand margin of the exhibit shows energy cost at source in cents per million b. t. u.'s.

Gasoline has ranged from 36.1 to 92.2 cents per million b. t. u.'s, a range of 56.1 cents.

Kerosene has ranged from 28.0 to 74.7 cents per million b. t. u.'s, a range of 46.7 cents.

Fuel oil No. 2 has ranged from 20.6 to 69.1 cents per million b. t. u.'s, a range of 48.5 cents.

Crude oil has ranged from 17.1 to 43.7 cents per million b. t. u.'s, a range of 26.6 cents. (T. 183-184.)

Residual oil No. 6 has ranged from 7.8 to 41.5 cents per million b. t. u.'s, a range of 33.7 cents.

Coal has ranged from 7.0 to 18.9 cents per million b. t. u.'s, a range of 11.9 cents.

[fol. 219] Natural gas has ranged from 4.28 to 7.68 cents per million b. t. u.'s, a range of 3.4 cents, virtually no range. (T. 184.)

Trend of source costs of crude oil

The source cost of energy in the form of crude oil and refined products fluctuated in a regular manner with respect to the laws of supply and demand from January 1, 1939, on up to the time Federal price controls began sometime during the year 1941. Then source cost remained relatively constant during subsequent World War II years and on up to the time price controls were removed in the early part of the year 1946. After removal of price controls source cost increased rapidly on a free, open, and competitive market, reaching their highest levels sometime during the first half of the year 1948, and after that source costs have fluctuated down and up according to the laws of supply and demand, up to the present time. (T. 184-185.)

Trend of source cost of coal

As to the trend with respect to coal, since only the average coal cost by years is plotted, seasonal variations in the cost are not shown. However, the yearly averages show an almost gradual increasing price for the years from 1939 up to the time of the removal of price controls on crude oil and refined products in 1946. Then the coal cost increased more sharply up to the year 1948, and has since that time remained relatively constant with a slight decline in cost of about ½ cent per million b. t. u.'s from 1948 to 1952. (T. 185.)

Trend of source cost of natural gas reflecting lack of free market for well head gas

The source cost of natural gas remained almost constant from 1939 on down through the years, to 1946, and has

since remained relatively constant with but a slight increase since then.

The price of gas has remained constant in the face of [fol. 220] these increases and the price per b. t. u. of other fuels, because of the fact that natural gas has never been on a free, open, and competitive market like the other fuels. (T. 185-186.)

Since the first half of the year 1948 the source costs of other fuels have fluctuated down and up according to the laws of supply and demand, up to the present time. (T. 187.)

There has been an increase in the demand for natural gas over this period of time.

There seems to be an almost ever increasing demand, which is at present limited only by existing pipe line transportation facilities. (T. 188.)

Exhibit No. 7 was received in evidence. (T. 191.)

Explanation of Exhibit 8

* * * * * * *

Exhibit 7 is the graphical representation of the source cost found in Exhibit 8.

These exhibits both reflect the order of desirability of fuels to which I have testified in explaining Exhibit 5. (T. 196.)

The basic fuels, as distinguished from the refined fuels, shown on this chart, Exhibit 7, are coal, crude oil, and natural gas.

As to why consumers pay more for the three top fuels, gasoline, kerosene, and fuel oil No. 2, than they do for the basic fuels, gasoline, kerosene, and fuel oil No. 2 are more [fol. 221] adaptable to certain premium uses that other fuels are not suitable for. They have a special and large demand for use as portable fuel in mobile internal combustion motors. (T. 197.)

Comparison of source costs of competitive fuels

There are no physical attributes or characteristics of utilization of natural gas which keeps its source cost below that of coal.

There are no physical characteristics or attributes of utilization of natural gas which keeps its source cost below the average value of residual No. 6. (T. 198.)

Q. What are the physical attributes or characteristics of utilization of natural gas that keeps its cost below that of crude oil, and I am still referring to source cost?

A. Crude oil contains valuable components which can be separated by refining to such products as gasoline, kerosene, fuel oil No. 2. These products can be transported and used for fuel in motor vehicles, a use for which a premium demand exists.

Q. If I understand your testimony, the physical attributes of natural gas and its characteristics of utilization have less advantages to the consumer than crude oil and more advantages than coal, is that correct?

A. Yes, sir. (T. 199.)

Explanation of Exhibit 9, conversion chart

Exhibit 9, my figure No. 3, is a conversion chart which can be used to convert fuel costs into energy costs.

* * * * * * * *

[fol. 223] Explanation of Exhibit No. 10, basic energy equivalents

Exhibit No. 10 sets out the basic energy equivalents. It tells how many barrels of oil you need to have the energy contained in a ton of coal or the number of Mcf's of natural gas you need to have the amount of energy contained in a barrel of oil or a ton of coal.

These basic energy equivalents help one who is not accustomed to the conversion of fuels into b. t. u. energy content figures when two or more basic fuels are being compared with one another.

The figures set out on this exhibit are based on specific gravities, b. t. u. per pound energy content, and source costs listed for natural gas, crude oil and coal in Table I, and figure No. 1, or Exhibits 6 and 5. (T. 205.)

Explanation of Exhibit No. 11

Exhibit No. 11, my Table VIII, is an analysis of energy content and source cost of 1950 mineral fuel production in the United States. (T. 205.)

Explanation of Exhibit No. 12

Exhibit No. 12, my figure No. 4, is a graphical presentation of the calculated data found in the last two columns of Exhibit 11. The whole large pie or circle shown represents the total energy content of the 1950 mineral fuel production of the United States. The total energy content is 34 thousand 724 trillion b. t. u.'s.

[fol. 224] The little pie shaped pieces are designed to show the percent or fractional part of the total energy production that is supplied by each of the mineral fuels, natural gas, petroleum, anthracite coal and bituminous coal. (T. 206.)

It is actual production. It is not exactly the same as consumption. It takes into consideration the amount of natural gas wasted. The others it represents the total production. (T. 207.)

Some gas is produced and wasted, the amount that is marketed is what I figured my values on, the market production, my average prices, wellhead prices, on natural gas, I figured on the amount of actual marketed production of natural gas. In this calculation I have used a figure slightly greater than that, which is gas that is actually wasted. It is lost and escapes into the air, and it is used for cleaning out wells and such.

These figures are total United States costs. (T. 208.)

39.26 percent of the energy produced in the United States in 1950 was supplied by bituminous coal.

3.45 was supplied by anthracite coal.

36.45 percent of all of our energy was supplied by petroleum.

20.84 percent is supplied by natural gas.

The small complete circle represents the total source cost of the 1950 mineral fuel production in the United States. That is the actual dollars paid by reason of this production shown under the large "pie." (T. 210.)

The various volumes of each fuel are set out in Exhibit 11 in the first column of figures, and the total cost in that exhibit, a Note 2, which says, "Using 1950 unit source costs shown in Table No. 2," using those source costs as shown on Table No. 2 multiplied by the respective volumes, why that is the way I calculated my total cost.

I had it converted to b. t. u.'s to have some common basis of comparison. The total dollars represented there are $8,705,000,000.

[fol. 225] The coloration on this circle is designed to show the percent or fractional part of the total source cost received by producers of each of the mineral fuels just mentioned.

The two complete circles show that natural gas supplied 20.84 percent of the total energy production for only 5.16 percent of the total source cost. (T. 211.)

From the total energy content and total cost figures shown on Exhibit 11, the over-all average unit source cost of the energy content of the total 1950 mineral fuel production in the United States was 25.07 cents per million b. t. u.'s.

The same figure for 1951 is 25.49 cents per million b. t. u.'s.

The over-all average of source costs on all mineral fuels, if you leave out natural gas for 1950, was 30.04 cents per million b. t. u.'s.

The average source cost per million b. t. u.'s leaving out natural gas, in 1951 was 30.76 cents per million b. t. u.'s. (T. 212.)

Q. Can you convert that to thousand cubic feet in terms of gas?

A. Yes. What quality gas?

Q. Well, say, 14.65 pressure basis.

A. Using an average quality of 1,017 b. t. u.'s per cubic foot, it would be 31.3 cents per thousand cubic feet. (T. 212-213.)

• • • • • • •

Explanation of Exhibit No. 13

Exhibit No. 13, my Table 3, shows comparative fuel prices in Detroit, Michigan, using September 3, 1952, source costs and present transportation rates from fuel sources to Detroit.

[fol. 226] Tabulated in the columns on this table are pound per million b. t. u. figures, transportation rates per hundred pounds and per million b. t. u.'s, and costs per

million b. t. u.'s at the source and wholesale in Detroit for all the various fuels listed in the left-hand column. (T. 215.)

Exhibits 8-12 received in evidence. (T. 215.)

• • • • • • • •

Q. What is the reason that you used Eastern Kentucky coal?

A. To get the source as close as I could to Detroit. The high quality coals of Eastern Kentucky and Western West Virginia would most likely out-compete lower quality western coals in supplying the Detroit market, which is also closer to the Eastern Kentucky coal producing area.

Q. The comparison here, then, is between Eastern Kentucky coal in Detroit and Kansas Hugoton natural gas in Detroit, is that right?

A. Yes, sir, Eastern Kentucky coal in Detroit and Kansas Hugoton gas in Detroit. (T. 216.)

I have a transportation cost of natural gas of 13.42 cents per million b. t. u.'s. That is not the same as what it costs to transport a thousand cubic feet. That is on a million b. t. u. basis. It is on energy in the form of gas, transporting energy in the form of gas. (T. 216-217.)

• • • • • • • •

[fol. 227] The gas in the Hugoton Field average quality is approximately 1,017 b. t. u.'s per cubic foot, that is 14.65 [fol. 228] p. s. i. a., and 60 degrees Fahrenheit. That is the average of the whole field. (T. 220.)

Referring to Exhibit No. 13, under Detroit, the figure of 25.7 cents is to the city gate. That is the price to the other gas utilities.

That is the price they get from these 54 other gas utilities, and not to the ultimate consumer. (T. 220.)

By Chairman Robertson:

Q. There are not 54 gas utilities in Detroit, are there?

A. No, in Detroit and along the way. That is the average they receive from them or wherever they are located. (T. 220.)

By Mr. Kyle:

Q. The other figures under Detroit, following down, after the 25.7 cents, are those figures to the ultimate consumer or where are they?

A. That is the same comparable figures wholesale in Detroit. That is the actual source cost of the fuel plus the transportation rate to Detroit.

Q. That is before it gets to the ultimate consumer?

A. The wholesaler that buys it at this price has to distribute it and sell it to the ultimate consumer.

Q. And that is comparable to the city gate on gas?

A. Very much so. That is why it is put in here as a comparison. (T. 221.)

By Mr. Stucky:

Q. As I understand this exhibit, you have just assumed a field price in the Kansas Hugoton Field of 14 cents on a 16.4 basis, is that correct?

A. Yes, sir.

Q. What is the equivalent of that on a 14.65 basis?

A. That is equivalent to 12.505 cents per Mcf at 14.65 p. s. i. a. and 60 degrees Fahrenheit. It is (T. 221) also equivalent to 12.297 cents per million b. t. u.'s for 1,017 b. t. u. per cubic foot natural gas.

Q. That is the figure you find, 12.30, under source, with respect to natural gas?

[fol. 229] A. That is the calculated cost for million b. t. u.'s. This gas listed down here at the bottom, 0.71376 gravity, 1,017 b. t. u. per cubic foot natural gas produced in the Kansas-Hugoton Field—wellhead, cost 14 cents per Mcf on a 16.4 p. s. i. a. pressure base at a temperature of 60 degrees Fahrenheit.

Q. So you take this 14 cent gas in the Kansas-Hugoton Field and you transport it to the city gate in Detroit where it is so wholesaled, is that correct?

A. Yes, sir.

Q. Then you compare it with these various other fuels transported to Detroit?

A. Yes, sir.

Q. And that is what your exhibit shows, is that correct?
A. Yes, sir. (T. 222.)

* * * * * * *

On the average of all the pipe lines, the average transportation rate calculates out to be somewhere between [fol. 230] three quarters of a cent and 1 cent per million b. t. u. for each hundred miles in the length of the system. (T. 225.)

It would be approximately the same on the basis of Mcf.

There is a slight difference due to the fact that the average gas in the United States has about 1.050 b. t. u. per cubic foot, and your transportation rate for a thousand cubic feet would necessarily be about 1.05 times the transportation rate of a million b. t. u. in order to correct for the additional amount of b. t. u.'s you are carrying over a million b. t. u.'s in a thousand cubic feet of gas. (T. 226.)

* * * * * * *

[fol. 231] By Mr. Stucky:

Q. What is the comparison between the source cost of fuels plus transportation costs to Detroit as regards to the wholesale cost in Detroit of natural gas energy and the next cheapest fuel?

A. Natural gas is the lowest price. (T. 229.)

That's assuming that it was 14 cents at the wellhead. (T. 229.)

The next cheapest fuels are 32.6 cents per million b. t. u.'s on screenings and 40.8 cents on lump. (T. 230.)

Explanation of Exhibits 14, 15, 16 and 17

Exhibits No. 14, 15, 16 and 17, my tables IV, V, VI and VII, present similar comparative data on wholesale fuel costs in Kansas City, Missouri, Omaha, Nebraska, Minneapolis, Minnesota, and Denver, Colorado, respectively. (T. 230.)

I used the same Hugoton gas price that I used on 13.

I used the transportation rate by the various pipe line companies that take it to these various markets, calculated in a similar manner. (T. 231.)

Explanation of Exhibit 18

Exhibit No. 18, my table IX, is merely a summary tabulation of comparative wholesale fuel costs in the five cities listed in tables III to VII, inclusive. These costs are all presented in one table so that a comparison between wholesale costs of each fuel in the five cities listed can be more easily and readily visualized. It is just a summary of the previous nine exhibits. (T. 232.)

Exhibits 13-17 received in evidence. (T. 232.)

Explanation of Exhibit 19, value of well head gas

Exhibit No. 19, my table X, presents my calculation of the wellhead value of Kansas-Hugoton Field natural gas based on delivered wholesale costs of competitive coals [fol. 232] in the five cities listed. Delivered wholesale costs of lump and slack coals are the same calculated costs of coals in these cities as shown on Exhibits 13 to 17, inclusive, and summarized in Exhibit No. 18.

The average wellhead values, using lump and using slack, and over-all average values, using lump and slack, are set out below the tabulated data on this exhibit. Since the average source cost of the coals as shown in the first line of the table is 20.42 cents per million b. t. u.'s, the over-all average wellhead value of Kansas-Hugoton gas was adjusted downward to adjust this 20.42 source cost down to the present United States' average 18.4 cents per million b. t. u.'s source cost as set out on Exhibits Nos. 5, 6, 7, and 8. (T. 233.)

This adjusted over-all average wellhead value of Kansas-Hugoton natural gas, based on delivered wholesale coal costs, and in all of the five cities listed in which this gas is marketed and sold, shows the wellhead value of this gas to be 31.0 cents per million b. t. u.'s or 31.5 per Mcf at 14.65 p. s. i. a. and 60 degrees Fahrenheit.

These figures do not take into consideration the many fine inherent qualities of natural gas other than its relative efficiency of use.

Similar calculations based on wholesale delivered costs of No. 2 fuel oil, a more highly competitive fuel for use in

the space heating of homes, give a much higher wellhead value of 61.1 cents of million b. t. u.'s or 62.1 cents per Mcf at 14.65 p. s. i. a. and 60 degrees Fahrenheit. (T. 234.)

I have assumed in all of my exhibits the average Kansas Hugoton gas, 1,017 b. t. u.'s per cubic foot. That is my calculated average of the gas in the Kansas Hugoton. (T. 238.)

I have many analyses on gas in the field. It is the average, my calculated average from these analyses. (T. 239.)

[fol. 233]

* * * * * * *

Exhibits Nos. 18 and 19 were received in evidence. (T. 243.)

Comparative monetary returns on oil and gas wells

The average production of a gas well in the Hugoton Field is approximately 234.5 Mcf per day on a 16.4 p. s. i. a. pressure base at 60 degrees Fahrenheit in July 1952.

The energy equivalent of that production in barrels of crude oil is 46.93 barrels of 35 degree a. p. i. crude oil.

If this amount of energy was produced through an oil well in the form of crude oil, at the present prices of crude oil, the return per day to the producer would be $104.74.

Q. What would it be for the total production?

A. $119.70, which gives the royalty owner $14.96 dollars per day. (T. 244.)

The actual return, figuring natural gas at 8 cents per Mcf on a 16.4 base, is $16.43 per day to the producer and $2.35 per day to the royalty owner. In all of these figures I haven't deducted the state's taxes. (T. 244.)

They are made on a basis of 1,017 b. t. u. per cubic foot at 14.65 at 60 degrees Fahrenheit. (T. 245.)

Q. In other words, a gas royalty owner gets $2.35 per day for the same amount of energy that an oil owner gets $14.96 per day, is that correct?

[fol. 234] A. If you had an oil well that produces the same amount of energy in the form of oil, 35 degree gravity crude oil, and a gas well that produced the same amount of energy out in the Kansas-Hugoton Field, that is the correct answer. (T. 245.)

Q. Would an oil well producing that amount of energy be considered a small, medium or large producer in Kansas?

A. Better than a medium producer. In fact, the energy produced from the average gas well in the Kansas-Hugoton Field in July 1952 was almost 4.7 times the daily energy production in the form of crude oil from the average oil well in Kansas during the year 1951. (T. 246.)

These are gross figures before taxes or operating expenses.

That comparison in production is limited to the Kansas Hugoton Field. (T. 246.)

I have been out in the field on many different occasions. (T. 247.)

I know the practice of blowing wells in the Kansas-Hugoton Field as part of a production process. (T. 248.)

. . . . . .

[fol. 240] As to the equivalent of a payment of 14 cents on a 16.4 basis, if you'd measure the gas at 14.65, it would be 12.506 cents. (T. 468.)

Cross examination.

By Mr. Conway:

(December 16, 1952)

. . . . . .

Meaning of "price," "cost"

The actual cost is the amount of money that the purchaser pays for a commodity. (T. 810.)

. . . . . .

Meaning of "value" as related to competitive market

Q. Would you agree with the definition that Webster gives on price, "That it is the amount of value"?

A. To me it would mean the actual amount of money [fol. 241] that somebody paid for something. If a person offered me something for so many dollars, I would say that was the price of it.

Q. That is your understanding of it. My question was would you agree with Webster's definition that price is the amount of value?

A. No, I don't believe that covers it completely.

Q. All right, sir. Where you use value in your testimony, what is your understanding of the definition of value and what you intended to use in connection with your testimony and your exhibits?

A. On Exhibit No. 19 the use of the word "value" means to me the actual amount of money that this gas could sell for if it was in free, open competition with other fuels.

• • • • • • •

Q. Mr. Bailey, do you regard the use of the words "cost, price and value" in your testimony and in your exhibits as synonymous?

A. No, they don't mean the same thing. (T. 813.)

• • • • • • •

Relative Desirability of Fuels

By relative desirability, I mean that any two of those fuels could be used for the same use, then they are arranged in the order relative to desirability.

In other words, natural gas, in my opinion, is the most [fol. 242] desirable of all fuels in cases where it can be used. (T. 832.)

Gasoline is next, in cases where it can be used.

My analysis takes into consideration only the main mineral fuel energies. (T. 833.)

Electricity is not a mineral energy. (T. 834.)

I did not include electricity in my comparisons because the price of electricity is so high that hardly anybody uses it for fuel. (T. 837.)

Difficulties in transportation of natural gas

Natural gas used to satisfy a portion of the Detroit heating market cannot be transported practically by any means other than long distance transmission pipe line.

Natural gas pipe lines have to be built from pre-determined sources of gas large enough to support the project and have to terminate at market also large enough to support the project. (T. 838.)

I used the latest figure that was available to me on transportation costs of fuel. (T. 865.)

Witness temporarily excused. (T. 882.)

Exhibits 24 and 25 received in evidence. (T. 288, 298.) (A. Tr. Ct. 51-52, C. A. Tr. Ct. 67-96.)

Testimony of JOHN ISE.

Direct examination.

By Mr. Fleeson:

(October 21, 1952)

Qualifications

I live at Lawrence. I am professor of economics at the University of Kansas. Have been connected with the University since 1916. As an economist in the broad sense, I did my undergraduate work at the University of Kansas, in music, law and economics. I had my graduate work at Harvard. Got my doctor's degree there in 1914. Taught at Iowa State College two years. Have taught at K. U. [fol. 243] since except one year as visiting professor at Amherst College, in the summer of 1914 I taught land economics with special (T. 315) reference to conservation in a seminar at Denmark, and in 1950 I taught the same subject in Salzburg, Austria. (T. 316.)

I have written a number of books. (T. 316.) In addition to books on conservation, I have written articles on the subject. (T. 317.)

Six years ago, I published my Economics, which was used in about 250 universities and colleges. I was for one year president of the Midwestern Economics Association. I have also served as vice-president of the American Economic Association and also on the Board of Educators, and on the Executive Committee of the American Economic Association.

Specialization in conservation

As an economist with special training and experience in regard to the problem of conservation may I say that conservation has been my particular field of study for about nearly forty years.

My doctor's thesis at Harvard was on the United States forest policy, the conservation of forests, published by the

Yale Press in 1920, and then I spent seven years working on the problem of conservation of gas and published my United States Oil Policy, Yale University published that, in 1926. (T. 316.)

Right now I am working on a book on the conservation of scenic plants, that is, on the United States National Park Policy. (T. 316.)

In addition to my books on conservation, I have written a few articles on the subject, but I won't cite them all.

I think I wrote one for the National Gas Journal, about 20 years ago, and one for the American Economic Review in 1925, on the theory of value as applied to natural resources.

[fol. 244] During these years I have been in some fairly close contact with the problems of conservation.

When Morris Cook was appointed to work out a settlement of the Mexican oil controversy he called upon me for such help as I could render.

In a recent case before the Public Service Commission, relating to oil proration, I was called in in an advisory capacity, investigation of the oil industry by the temporary National Economic Commission in Washington in 1939. I was employed by the Commission as an expert to represent the government, and I wrote the report. (T. 317.)

Role of economist

The economist looks at problems, business problems, from the broad social point of view, that is, the point of view of the greatest good to the greatest number.

I have studied such problems of government policy, but, of course, not technical engineering problems. (T. 318.)

Conservation as economic problem

Conservation seems to me to be about the most important of all economic problems, because our high standard of living in the United States is due mostly to our rich natural resources, and the conservation of those resources seems to me to be in some respects perhaps our greatest problem, and it will grow more important as time passes.

It has grown more important in recent years because the United States has wasted her resources so recklessly that in many respects we are now a have-not nation. (T. 318.)

Importance of natural resources

As an economist I would describe a natural resource as a gift of nature in the place and form in which nature provides it, but as found and worked over by men. (T. 318.)

These resources have provided the basis for our high standard of living as a nation, and in a given community [fol. 245] the resources will determine in considerable measure the character of the life there.

In Iowa where the land is rich and where there is plenty of coal also, you have a high standard of living, people who live very well, and in some of these southern mountains the standard of living is low because the natural resources are not available there for a really high standard of living, and land handled well we will have a local resource that may be of very great value. For instance, the iron ore of Sweden has been to Sweden. The Swedes don't waste it the way we have wasted some of ours.

The nitrates of Chile will be another illustration. At one time the nitrates were the entire revenue of Sicily and also the potash of Germany. We have been rather more careless with our resources and haven't gained as much as we might have. (T. 319.)

Natural resources not all irreplaceable

Not all natural resources are irreplaceable. Forests, for instance, may be replaced at high cost. Water power can be used a long time, as long as the impounding reservoirs don't fill with silt, although we have some cases where they fill in a term of seven or eight years and cease to be useful. Eroded soil can be brought back if it is not too badly wasted, but it takes a lot of capital to do that, and there are possible substitutes for most resources. (T. 320.)

Irreplaceability of natural gas

Q. Would you say that natural gas is an irreplaceable natural resource?

A. Yes, I would say so, practically so. Of course, we can manufacture gas at a cost of perhaps 50 times that at which we have been selling some of our natural gas, but I don't think we ought to think of coal and oil as adequate substitutes for natural gas.

[fol. 246] Meaning of "waste"

Q. How would you define waste?

A. Well, there is no precise position in that, a little like some problems in law, principles in law. There is no precise definition possible. Any loss or use which fails to afford the maximum social utility or want satisfaction for present and future generations is a waste. (T. 320-321.)

Q. Would you say that is the usual, ordinary and accepted meaning of waste?

A. I think that is always implied or usually implied, although we can't define waste very precisely. Of course, I included future generations there, and when we try to define conservation that becomes a very important element in our definition.

Highest use of natural gas

Q. What do you consider the highest use of natural gas?

A. I suppose it is use in the kitchen range.

Determination of highest use

Q. As an economist how do you determine the most efficient use of a natural resource?

A. As an economist I would determine it by the question of which use will command the highest price. Alfred Marshall, the greatest economist of the Nineteenth Century, pointed out that there was no precise way of measuring a utility, but that the price which people would pay for it was a fairly rough measure, and that it was the most satisfactory use we had. Therefore, it is the one which I use. That is a use in which the buyer will (T. 321) pay a dollar a thousand is to my notion represents a utility of about a dollar a thousand. If it is a use in which the user pays ten cents or twenty cents, then I would call it a 20-cent want and say that that represents the utility roughly.

[fol. 247] Q. Now, just suppose a given use for gas, say, in connection with the manufacture of Portland Cement, and suppose farther and assume that the appliances which they use are 100 per cent efficient in an engineering sense, that is that it uses, that the appliance uses, all the heat content in the gas, can you from those facts alone determine whether this is or is not a wasteful utilization?

A. No, I think I can't at all.

Q. Why not?

A. It might be grossly wasteful. It might be a use in which the manufacturers were willing to pay and were paying 15 cents a thousand, and that would be a 15-cent want. Even however carefully they may use it in their burners, if it is a low want, it represents waste. (T. 322.)

Price is the only indicia we have for determining high or low use

Q. What other factors do you have to consider?

A. You mean in what problem?

Q. With reference to, say, its use to manufacture Portland Cement.

A. Well, you'd have to know mainly, using our principles, what they would be willing to pay for it there.

Q. In other words, the principal indicia is price?

A. Is price, that is right. That is the only indicia we have. (T. 323.)

Relationship between price use and conservation

Q. What is the relationship between the price at which a natural resource is available for a use and the use to which it is put?

A. Well, unless we resort to inquisitorial government rationing, and we have had some experience with that, the only effective way of conserving any resource is to put a high price on it. The high price will always conserve a resource, and as a general proposition we can say that there is no other way of conserving any resource but to put a high price on it.

[fol. 248] Effect of wellhead price on use

Q. Assuming that natural gas is sold at the wellhead from 11 to 13 or 14 cents per Mcf, what in general will be the effect of a raising of that price upon the use to which the gas is put?

A. Well, it would eliminate some low uses, presumably those in which the gas is yielding the lowest utility, and it would tend to increase the efficiency of the appliances, appliances used. There has been a time when I am quite sure kitchen ranges wasted at least half the heat in gas. I think they are twice as efficient today. (T. 324.)

By Chairman Robertson:

Q. Does that condition presently exist, Dr. Ise?

A. No, they have improved it a great deal with the raise in price. (T. 324.)

Low uses can increase their efficiency further, if prices were higher.

Simplest and fairest way to prevent waste and conserve gas

By Mr. Fleeson:

Q. From the standpoint of an economist what in your opinion would be the simplest and fairest way for (T. 324) a regulatory body charged with the duty of preventing waste and conserving a natural resource to perform that duty?

A. Regulation of price.

Q. Why do you say that regulation of price is the simplest method of conservation and the prevention of waste?

A. Well, it is not only the simplest, but under our present government organization it is about the only method because when you adopt a process, a policy of rationing, you always get government corruption, perhaps, and black markets, and things of that kind, and also it calls for an inquisitorial interference with private business, artificially selecting certain industries for the use of a resource. The price method of regulating use is one which does not incur those same dangers.

[fol. 249] Q. It is the most effective form of regulation, is that correct, doctor?

A. It is the most effective, the most satisfactory, and also the only one.

Q. And it is the fairest method?

A. And the fairest, that is right. (T. 325.)

Alternative modes of conserving gas

Q. What alternative modes could a regulatory body use to conserve gas?

A. The government might take over the gas field and cut the production drastically. Of course any cut in production would tend to raise the price. That would, of course, be impossible politically and I think inadvisable from some other points of view.

In the second place, the government, that is, state or federal government, might leave the gas in private hands and simply restrict output and so raise the price, or the government might levy a heavy tax on production, that would raise the price, and in the fourth place the regulatory body might raise the price of gas, and so eliminate the waste and the lowest uses, and in that way conserve gas.

I think in all four methods, however, the conservation comes through higher prices. (T. 327.)

Economic effect of law wellhead price for gas

Q. What would you say is the economic effect of a relatively low price for gas at the wellhead?

A. It would result in what I call waste all along the line. In the first place, it would make it—well, let's see, it would result in waste, it would make it difficult for business men as a business proposition to adopt conservation methods on all along the line. For instance, in flares and things of that kind.

Q. What would it do to the development of marginal fields?

[fol. 250] A. Well, on the supply side, I should think that a low price would make it impossible from a business point of view to develop certain marginal areas of a field, and perhaps marginal fields, yes.

Q. Take the Hugoton Field, which is, I think the testimony is that it is one of the largest, if not the largest, gas field in the world, largest known gas field in the world,

which is in ten counties in Kansas, would a low price or a high price tend to encourage the development of the marginal acreage which surrounds that field?

A. High price. (T. 328.)

Q. High price would encourage it?

A. Oh, yes.

Q. What about abandonment of wells?

A. High price would tend to enable the producers to drain the wells more thoroughly. You could see that very clearly in the oil industry where a sag in the oil prices will often result in the abandonment of stripper wells.

Q. Conversely what would you say would be the economic effect of a higher price for gas at the wellhead?

A. Well, it would tend to reduce the amount of waste at the well. It would tend to encourage the development of marginal fields. It would also tend to reduce the amount of waste, that is, the amount of loss, because we could call it waste, along the pipe line and at the point of consumption. (T. 329.)

Definition of free market

Q. As an economist, will you briefly describe a market?

A. There are different kinds of markets, but a free market would be a market in which there is a standardized product, reasonably well standardized, in which there is a very great number of buyers and a very great number of sellers, and therefore, a price over which no seller or no buyer has any control.

[fol. 251] Q. Do we have any examples of that kind of a market? (T. 329.)

A. The Grain Exchange would be the nearest. As a matter of fact, it would very nearly approximate a free market.

Q. How is a market price established?

A. In that kind of a market it is established by the equilibrium of demand and supply.

Q. Under normal conditions what effect does an increase in consumers' demand have upon the price of the product which is sold?

A. Normally raise it.

Q. Will you describe in general the term "market conditions" relating to coal and oil?

A. Well, they approximate more nearly a real and free market in the market forecast but they are really not good illustrations of a free market. In the case of oil, one study, the study of Joe Bain of California, three volumes, brings out the fact in the oil industry you have every gradation from almost pure monopoly to almost pure competition. It is, in other words, rather hard to say that it is monopolistic or competitive, because it is all of those in different given places.

You have buyers of oil and most oil companies are glad to (T. 330) get crude, and you have a reasonable number of sellers, and so there is some elements of a competitive market in oil.

In coal the thing is average competitive, has been in recent years. (T. 331.)

It is excessively competitive. (T. 331.)

Natural gas market at wellhead not free market

Natural gas, the natural gas market, has very little resemblance to a free market. (T. 331.)

Q. What in your opinion are the distinguishing (T. 331) characteristics of the natural gas market?

[fol. 252] A. Well, it is hard to say because as an economist we are used to dealing with something that actually approximates a market and it doesn't actually approximate a market in very many ways.

You have selling there a group of landowners, none of whom have any control over any part of the supply, and you have a fugatious resource there which you have to get quickly, if you get it at all, it may be taken by your neighbors, and so the supply is of extraordinarily peculiar nature.

The real truth is that a landowner in some of the early history of the field was so anxious that he would sell for anything above nothing, though that isn't a supply that would characterize a free market, and, of course, the demand doesn't come from an infinite number of buyers, but from one, two or three, possibly three, pipe lines.

Gas can't be stored

Then, of course, the gas can't be stored. If it could be stored at a reasonable price it would be of some certainly different character.

Then, too, gas is often a by-product of the oil industry, and any by-product offers peculiar (T. 332) conditions, market conditions, so peculiar that we can hardly determine any normal value for a by-product.

Life-of-lease, fixed-price contracts

In the fourth place, some of the contracts made for gas and the early prices stipulated such a low price, and they hang on for quite awhile.

Q. That is, you are referring to life of lease contracts?

A. Yes.

Q. In which the producer dedicates the entire production for the life of the production?

A. Yes, or at any rate for a long enough time so the price will hang over, oh, maybe several years after the conditions which gave it life.

[fol. 253] Q. And dedicates it at a fixed price?

A. That is right.

Q. So that the only relief that he can receive would be through some such instrumentality as a commission charged with the duty of conservation and thereby raising the price for the purpose of conservation?

A. That is right. Of course, there is another element which makes it still worse, and that is the fact that some of the buyers have production of their (T. 333) own and may not care, as a matter of fact, to buy anybody's gas. Now, I guess they usually would be glad to buy it, but there have been times when they didn't.

Q. You mean buy it to add to their own reserves?

A. Yes, that is right.

Q. In your opinion do the prices of coal and oil more nearly respond to the normal inter-play of the forces of supply and demand than does the price of natural gas?

A. Oh, yes.

Waste of natural gas

Q. Would you say that gas has been more largely wasted than any other resource?

A. Yes, I think gas has been wasted far worse than any other resource that I have studied. As a matter of fact, it is my fairly well considered opinion that we have wasted nine tenths of the utility in the gas that we have used up to now, that is, in the utility that we could have got out of it by more careful management.

Q. What would be the effect on the consumer of a rise in the price of gas?

A. Well, of course, some consumers, if it were a (T. 334) considerable rise, would have to change to something else, some other fuel, but in the long run our Kansas housewives would certainly gain because they would have gas for a longer time. The length of time that this resource [fol. 254] lasts is a direct function of the price, and a higher price would mean that they would have that for a longer time. (T. 335.)

Interest of consumers in higher wellhead prices

Q. Dr. Ise, as an economist, we have in this proceeding, in this hearing, a number of cities who have intervened in protest. What, from a long range point of view, doctor, is to the benefit of the consumers of those areas?

A. I think they can only lose by it, because the people in the Kansas towns ought to be interested in a higher price, and they ought to be interested in the preservation of this gas for domestic uses, and, therefore, for the longest possible time. (T. 335.)

Q. Would you yourself be willing to pay more?

A. I would pay twice as much as I now pay and would still use gas.

Q. You would be happy to pay twice as much as you presently pay for gas to know that you would have it over a longer period of time?

A. Certainly.

By Mr. Cosgrove:

Q. What do you pay for gas now?

A. You know how the gas companies are they get that tangled (T. 337) up pretty badly so it is hard to read, but I

think my price is about 55 cents. I asked an engineer about it and he thought that was about what it was.

Q. Would you be willing to pay $1.10?

A. Yes, I would. I had my house properly insulated and in a properly insulated house your costs are not very high.

By Mr. Fleeson:

Q. . . . What would be the effect on the large industrial consumer of a raise in the price of gas at the wellhead?

A. The marginal users would have to shift to another fuel, and ought to, of course.

Q. And why should they shift to another fuel?

[fol. 255] A. Because they ought not to use natural gas. Scarcely any great user really ought not to use it unless there is some special reason for it, because a big user, industrial user, can handle coal, a substitute for natural gas, with, I should say, one twentieth the time and trouble and (T. 338) expense that the domestic consumer would face in using the same amount of coal.

In other words, a billing plant can roll a carload of coal up there and dump it in a bin and it will be pushed into the furnace by power and will be burnt at higher efficiency than it is burned in any domestic furnace, which is very wasteful.

By Mr. Cosgrove:

Q. You used the term marginal user, I would like to have you explain it.

A. I mean the user who is just barely a user.

Q. Do you mean by that a domestic user or a——

A. (Interrupting) In speaking of the marginal domestic user I mean one that is just barely willing to use it at that price. If he was willing to use it at a higher price he wouldn't be marginal.

By Mr. Stites:

Q. Are there marginal domestic users?

A. Yes, I think there will be. In Lawrence gas is more expensive than coal, but considering time and trouble it

doesn't seem to be so. But I think per heat unit it is probably (T. 339) more expensive than coal and there are some people who would hesitate to transfer to gas.

Meaning of conservation and interest of consumer

By Mr. Fleeson:

Q. What do you mean by genuine conservation?

A. Well, by conservation we mean the reversing of waste, that is, it would be following a policy, such a policy as to provide a reasonable approximation of maximum utility for consumers, present and future.

Q. Would not a higher price impose hardships on the housewife and the house owner?

[fol. 256] A. Well, any change always imposes some hardships immediately. But I don't think it would be such a serious hardship for the home owner, because many home owners could insulate their houses in such a way as to cut their fuel consumption down very greatly, and even a higher price might not cost anything in the long run.

I have been something of a fan on that problem of insulation for 25 years. I have tried out a lot of different kinds of insulation, and I got the fuel cost of heating my house down from $200 a year to $55. (T. 340.)

Similarity between market and price of natural gas now and timber and oil in the past

Q. Is there any similarity between the market and the price of natural gas now and of timber and oil in the past?

A. Yes, of all resources, because all resources were originally plentiful and cheap, and that's the way we developed the traditional American spirit and the American slogan, here is something useful that is wasted. Yes, timber was very cheap and we wasted it scandalously, including the land under it in many cases.

The same thing was true with, well, we couldn't waste coal fast enough to do much, but we used to waste, we used to leave half of the bituminous coal in the mines. We do much better now.

Copper, of course, was originally thought to be very plentiful, yes, and it was cheap, and we wasted that, and

we have used up most of our lead and zinc. I believe the government had to put on a bonus on production, I think, of zinc this last war to get as much as they wanted, just (T. 342) as they did for copper for the marginal producers.

And oil, I think, has been wasted scandalously.

Q. If the price of gas were set too high would not other areas undercut us and prevent us from selling some of our gas?

[fol. 257] A. Well, yes, and that might be unfortunate, although I am not sure how unfortunate it would be if there were some way of dividing the Oklahoma share of the Hugoton Field off, I would be in favor of Oklahoma helping herself to what she has and selling it at any price she pleases but that wouldn't seem to me to justify our doing it.

Value of natural gas

Q. Do you have an opinion as to whether or not the field prices of natural gas at the Hugoton Field are less than the intrinsic or relative value of gas in terms of other fuels?

A. In economics we never use the word of intrinsic value. We assume a commodity has value only if it will bring a price in the market and I think comparison with natural gas of some other fuels is likely to lead to a false conclusion.

You say that natural gas at four cents a thousand is equal to coal at a dollar ton or coal at $22 a ton or whatever it is, we have some comparisons from our engineers here. That isn't a fair comparison because these other fuels are not substitutes for gas, they are not comparable with gas at all, that gas in the kitchen range comes through without any trouble, it can be lighted in an instant, and it doesn't smoke up the kitchen, it leaves no ashes to carry out, and it is a premium fuel not to be compared with coal, of course, even in domestic heating it is not to be compared with coal.

It is worth much more obviously obviously because of its superior quality, and therefore I don't think we ought to consider that coal and crude oil are in the same class with gas. They are inferior fuels. (T. 344.)

By Mr. Adams:

Q. What about electricity?

A. Electricity is in some respects better than, it would be finer than, gas, but it is extremely expensive, and it is [fol. 258] hardly usable for anything, that is, in this country, hardly usable for anything but kitchen ranges but there (T. 344) it is very nice, but I have the impression it costs about three times as much as gas.

By Mr. Fleeson:

Q. For space heating, that is, house heating, it would be impossible, would it not?

A. It would be impossible, unless a man were very wealthy, unless you have a cheaper price of electricity.

Q. They do use it occasionally to heat a bathroom, that is about the size of it?

A. Also in some places in the west they use electricity because they have hydroelectric power and it is relatively cheap.

Q. That is, where they want to raise the temperature by a few degrees, why, then——

A. (Interrupting) That is right.

Effect of low price on rate of consumption

Q. In your opinion what effect do low levels of field prices have on the use of natural gas in place of other fuels?

A. Of course it stimulates the use of gas for all sorts of purposes, and the lower the price of gas the greater will be the substitution of it for other fuels. As a matter of fact, I suppose it is true that if the price of gas were as low as it is now or even perhaps somewhat higher (T. 345) and if you knew you could burn that gas for a hundred years, I should think it would displace all other fuels for every purpose.

Market conditions in gas fields

Q. Under normal circumstances what happens to the price of a commodity or resource when the consumer demand for that commodity increases?

A. Ordinarily he'd raise the price.

Q. Has it been increasing for a number of years?

A. Yes.

[fol. 259] Q. Under normal circumstances what would you expect the price of natural gas to do during such a period of increasing demand for natural gas?

A. Normally it should rise, and with the increase that has come in the years, it should rise considerably.

Q. Can low field prices for natural gas be explained in the terms of a diminishing demand for gas?

A. No.

Q. How do you explain the failure of prices in the field for natural gas to rise substantially in a period of continuous and rapid growth and demand?

A. Well, there is such a tremendous supply there and it has already been produced and once you get the well in, (T. 346) why, there it is and flows out without further trouble.

Therefore you may say you have an extremely plentious supply of gas so an increased demand can be met there without any great increase in price. Of course the prices have been increasing faster than the demand.

Relative bargaining position of buyers and sellers

Q. With respect to the market for natural gas what has been the relative position of buyers and sellers?

A. The buyers have had, of course, every advantage. The seller of natural gas really chooses between selling it for whatever he can get and giving it away to the next adjoining owner.

Q. That is, if a land owner has land and he is offered, say, an 11-cent price, he can either take that price or see his gas dissipated by his neighbor's well, is that right?

A. Eleven cents or nothing, and I can imagine a case in which it would be two cents or nothing, because he has no way of holding that.

Q. Of course you can't say that now because of the eight-cent order of this Commission?

A. No, no, that is right. Of course there is another thing [fol. 260] involved there, and that is that the average owner

of any resource, the average recipient of any income is anxious (T. 347) for present income and income not too far in the future.

Q. And what does that do to the problem of conservation?

A. That is one of the most serious difficulties in the whole problem of conservation, because they have to compound present value at some rate of interest in order to compute what it ought to be worth in the future, and the price of a natural resource has to rise rather rapidly in order to justify its retention by the owner.

Now, in timber we found that over and over again, that the owner of standing timber would cut and slash and get out because if he tried to hold that for 20 years he presently found that he had at compound interest a very great investment and a greater investment than he could possibly realize in selling it. (T. 348.)

By Mr. Kyle:

Q. Your farmer has no conception, though, as to the value of gas until the field is exploited and developed, does he?

A. No, but he likes income now. I mean to say he would prefer present income. I don't know to what extent the interest charge would enter into his calculations. But as to the holder of many resources the interest charge is a very important element. (T. 348.)

Q. He will take a dollar today not knowing what the value tomorrow will be?

A. Yes, I think so. There is an element of uncertainty there, too.

By Mr. Fleeson:

Q. Not knowing what the future economic picture is going to be?

A. No, not knowing what the future economic picture is going to be he is likely to take most anything. Even if he were a very shrewd and calculating man he would want present income.

[fol. 261] Reasons for rapid exploitation

I think the present discounted value of $100 accruing 50 years from now is $55 at 6 percent interest. The present value of an income of $100 accruing 100 years from now at 6 percent compound interest is about 72 cents. That means that the holders of resources are driven by economic considerations to cut and slash and get out.

Q. That is, to presently exploit?

A. That is right, presently exploit.

Q. Do you believe, doctor, that the state has any function to perform in reference to the natural impulses with regard to such exploitation?

A. Well, looking over the records with respect to all (T. 349) natural resources it seems to me that is one of the most fundamental functions of the state.

Now, conservation, conservation is a state function, to a considerable extent, and I think it can't be anything else. I know no example that would indicate that the conservation will be adequate without state intervention of some kind even soil conservation.

Q. And conservation is in the classic tradition of a true liberal.

A. Yes, indeed. Also a true Christian who is considering the interest of the next generation.

Q. You mean it is a Christian view?

A. Yes.

Q. What relationship is there between the field prices for natural gas and exploratory and developmental activities relative to natural gas?

A. Well, of course, the higher the price of gas the more energetic will be the efforts to buy more. (T. 350.)

By Mr. Kyle:

Q. Dr. Ise, following up Mr. Stites' clarifying question I presume that perhaps the Commission was wrong in 1948 by not raising the price beyond eight cents at the well?

[fol. 262] A. That is right. Of course I had the feeling all the time that we were setting that price too low. I argued that with Mr. Fleeson here. I didn't think that that was a reasonable price at all. I think it should have been set

higher, just as now, I believe, someone said that the price they were seeking was 14 cents or something like that. That isn't high enough. It should be about 25 cents, and it will be that some day in the Hugoton Field, I would guess. (T. 353-354.).

I didn't mean to say I would favor raising the price to twenty-five cents, but I think it would be fortunate if it were twenty-five cents, and if our previous policy had been such that it would now be that, because I think it will before many years be as high as twenty-five cents.

It is now twenty-five cents in Pennsylvania, nineteen cents in West Virginia, and I think there is little reason to assume that it won't reach twenty-five cents in this state.

Mr. Adams: You mean wellhead?

The Witness: Wellhead. (T. 361.)

By Mr. Fleeson:

Q. You are referring to the fact in the future that there will come a time when the Hugoton Field will reach its peak and thereafter decline?

A. That is right.

Q. And what will happen at that particular stage?

A. At that stage prices will be high. Of course they have been going up rapidly recently, and they might go faster then.

Measure of efficient use

Q. As an economist, how do you determine what the most efficient use of a product is?

A. We do it on the basis of price, the price that it will stand.

Q. When you say that the domestic use for natural gas for cooking and space heating are its most efficient uses, from an economic point of view does that reflect your value [fol. 263] judgment or would you say it was on the basis of an objective standard?

A. I think that is ably objective. We simply say if people are willing to pay a dollar a thousand that they (T. 361) have a; that the resource of the product will have a, greater utility to them than to people who are not willing

to pay over fifty cents. It is the language of the business world. (T. 362.)

Relationship between price, waste and conservation

Q. Now, I am going to try to summarize very briefly. What is the relationship, if any, between the value of gas at the wellhead and, first, the design of gas furnaces and other appliances?

A. The higher the price the better the design would be.

Q. All right, the insulation of the buildings?

A. The higher the price the more attention would be given to insulation.

Q. The activities of consumers in utilizing gas?

A. The higher the price the more careful they would be in trying to avoid waste.

Q. Increased recoveries from gas reservoirs?

A. The higher the price the greater would be the recovery.

Q. The drilling out of proven, but marginal acreage?

A. The higher the price the more likely they would be to drill out such areas.

Q. The period of time over which a natural gas resource may be available for consumption?

A. A period of time is directly related to the price, the higher the price the longer the time over which it will (T. 362) be available.

Q. That is, by eliminating waste and low uses?

A. That is it.

[fol. 264] Higher wellhead price now results in lower price in future

Q. It would prolong the life of the resource?

A. Prolong the life, and there is another point, if I may raise it here.

Q. Yes.

A. That is the high price today would mean a low price in the future. In conservation the present price and the future price are inversely related. The lower the price today the higher the price in the future, the higher the price today the lower the price in the future, because the

higher the price today the more we will conserve for the future, and the greater will be the supply, and the lower will be the price.

Q. And how will a high price affect production practices?

A. Well, the high price would result in conservation at the point of production.

Q. What about attempts to prevent leakage or blowing of wells?

A. Well, it would encourage them and make them financially possible. Of course, a pipe-line Company would not like (T. 363) to have leakage, and yet, I suppose, if the pipe line leaked a million feet of gas a day, this is purely hypothetical.

Q. Reference has been made to the fact that in Kansas the statutes of Kansas provide that wells may be blown with gas in order to clean them out?

A. Yes.

Q. A statute which this Commission is compelled to recognize as the arm of the legislature. Now, what effect would a higher price have on the blowing of wells?

A. Well, just all along the line a higher price would tend to conserve the gas.

Q. What effect would higher prices at the wellhead have to do with the end uses of gas?

A. Well, it would conserve it for the highest uses.

[fol. 265] Source costs of other fuels and waste

By Mr. Fleeson:

Q. In your opinion does the taking of gas out of the Kansas Hugoton pool at the wellhead or field price substantially less than the source cost of the next eligible substitute constitute waste?

A. Yes, I think it is definitely so, at the prices prevailing heretofore, I think it is gross waste.

Q. Is there any substitute really for natural gas other than manufactured gas, any real substitute?

A. No, I don't believe any really good eligible substitute; and even the manufactured gas, as you know, is not too good, because I think it has half the heating value of natural gas, but still it would be a fairly eligible substitute.

Cross examination.

By Mr. Stites:

Further qualifications

Q. Dr. Ise, without at all reflecting on your qualifications as an economist, because we can see you are qualified, is it fair to summarize your experience as an economist as being principally that of the teaching of economics?

A. About half and half. I usually spend about half of my time teaching and the other half doing research. (T. 882.)

Q. Maybe this will clear it up. Have you ever been employed in any capacity by a private industrial concern in connection with the application of economic principles to the business of that concern?

A. I believe so. (T. 883.)

Price and use

Q. Doctor, as I understand your direct testimony, generally it is your opinion that if the customer is paying less than he can afford to pay for natural gas, then is use of gas constituting waste. Am I correct in my summary of your——

[fol. 266] A. (Interrupting.) No, I wouldn't say that.

Q. What is it, then, what is your approach?

A. My approach is merely that you can judge the use of a thing by the price a man pays, whether it is a high or low use in the pattern of uses, and I should say that the fellow who is burning gas at 17 cents a thousand who couldn't pay more is using it for a very low (T. 889) purpose.

Q. If the price the customer pays sort of measures the utility of the use of gas as a fuel, if the price he pays is the test, then it would follow that the people of Kansas should not be permitted to use gas for residential purposes since by transporting the gas to other states it can demand a higher price, now, does that follow?

A. No, it wouldn't seem to me to follow. Of course they'd have to sell it—they could perhaps get a higher price elsewhere, their costs would be greater, and there is

some relation between the cost of transportation and price, price of gas in Wichita. (T. 890.)

Q. What I am trying to get at, doctor, is this, this efficiency in gas appliances, the kitchen range, which you have mentioned, that comes by reason of the improvement of the art, doesn't it, and research that is made——

A. (Interrupting) And the price norinally. There is nothing that gives a businessman the same incentive to improve that than a higher price. (T. 896.)

Carbon black plants and waste

Q. Doctor, I don't want to belabor the point any further, but I was just asking you to relate for the record, if you can, the name and place of the waste of Kansas Hugoton gas since March 1, 1949?

A. Well, according to my definition of waste I could, because traveling through western Kansas a few years ago you never got out of sight, in a half day you never got out of sight, of these carbon black concerns that were wasting all the heat. (T. 901.)

[fol. 267] Wellhead price and greater ultimate recovery

Q. Doctor, I think you have mentioned and testified that an increase in wellhead price would tend to enable the producer to drain the wells more thoroughly. Do you recall your direct testimony in that respect?

A. It would make it worthwhile to continue to operate a well which they had closed down at a lower price.

Q. You mean by that that the well would be taken to a lower abandonment pressure?

A. That is right, and they'd also get the ouskirts of the field at a higher price.

Q. Doctor, have you taken into consideration the additional investment by a pipe-line company such as a field compressor station and so forth which would be necessary to (T. 902) drain these wells more thoroughly?

A. Well, I can understand that they have some expenses, but my point merely is that the higher that price of gas the more worthwhile it is to do things of that kind. That would be the principle, wouldn't it?

Q. I am trying to reconcile your answer to these other answers which I think an economist should consider, one of which would be the additional investment which the pipe line company would have to make to get that gas, such as additional compressor stations in the field——

A. (Interrupting) You have had to do that, anyhow if the price is low, they would have to do it but they couldn't afford it.

Q. I am asking you if you have taken that additional investment in consideration?

A. I have some comprehension of the fact that the pipe lines have expenses.

Q. Doctor, let me put the question this way, might not a higher field price, which would have to be paid by the pipe line company, tend to discourage the pipe line company in making the additional investment necessary to ob- [fol. 268] tain these relatively small additional volumes of gas? (T. 903.)

A. Presumably, not to any great extent, because the pipe lines are allowed a reasonable return on their investment. (T. 904.)

• • • • • • •

Q. Doctor, could you elaborate a little bit on what you considered to be the waste that consumed nine-tenths of the utility of our gas to date?

A. Well, in the first place we used to burn a lot of it in the open air. That is forbidden by law now in Kansas, but I have seen it in Texas. That would be one thing. And we have used a lot of it for very low purposes.

I think that natural gas really as a fuel ought to be worth a dollar or so a thousand. I know that quite a little of it out here in the Hugoton Field has been sold for three and a half cents, and that would seem to me to waste more than nine-tenths of the utility in it.

In other words, a thing which is used to satisfy a 75-cent or a dollar want seems to me to be satisfying ten times as much utility as one that satisfies a want which is one-tenth that much. Lots of our gas has been used for very low purposes. (T. 906.)

• • • • • • •

Q. Dr. Ise, you mentioned the other day and I think you mentioned again today, that you yourself would pay twice as much as you now pay and still use gas, you are talking about your use of gas in your home?

A. That is right.

Q. Does that mean under your theory of value that the gas which you are using at present prices constitutes economic waste?

A. I think it would be better if it were up to about—no, not what I'd pay necessarily because I'd pay more than some people. My time is worth more than some people's time although I am just a professor.

[fol. 269] I figure that it would take about 75 hours of time to save $75 by using coal and that my time is worth more than a dollar an hour, that's all, but I don't like that statement, I am afraid that will carry implications which I don't mean.

In other words, I am not recommending that the price of gas be raised to $1.10, I don't think it ought to be. Also I don't think the price to domestic consumers should be raised. In most places it is the industrial users that represent the low uses. (T. 907.)

Q. Doctor, have you made any study to determine how much of an increase in fuel price would be necessary to cause any industrial user to shift to another fuel?

A. No, I haven't. I am not even sure that I could. You'd have to try it out to them and see what the response (T. 908) was. You ask their opinion as to what they could stand and you'd get one thing but it might not work out that way. There is one thing sure you know that they are going to transfer to some other fuel finally. (T. 909.)

The problem is shall you use our gas for 17 cent wants or shall you save them for 75 cent wants, that's the big looming question. If the Kansas people had to pay 65 percent of the cost for all of it that wouldn't to me, be the most significant thing. To me (T. 909) the most significant thing about this whole problem is the question, are you going to consider the interest of the next generation or are you going to use our resources up as fast as you can in this generation. (T. 910.)

• • • • • • •

[fol. 270] But I don't know that you would need to raise the price to the domestic user; he is already paying a fairly high price. It is the industrial user that is wasting the gas. (T. 911.)

Q. Isn't this marginal domestic user who may be priced out of the gas market, isn't he just as entitled to enjoy the benefits of natural gas as are you who can afford to pay double what you are paying?

A. No that sounds like communism.

Q. Call it what you may, but I'd like you to answer it.

A. You mean to say that we ought to graduate this price according to the means of people, that wouldn't be certainly a capitalistic price system. I suppose the (T. 911) Russians might do that, we wouldn't want to do that.

In other words, some people might have to economize, that is all right, I think that is part of the world as it was, and I don't know why—you couldn't have it as a matter of expediency, different prices. If that fellow has to burn coal, it is not a terrific hardship. After all, I did it many years.

Q. Does that parse with your theory of economics, that is, the economist approach should be that which is the greatest good to the greatest number of people?

A. The greatest good to the greatest number will be secured by using the gas for those whose wants are highest.

[fol. 271] You have to measure it by the market, you can't go into a man's inner consciousness and say, "Here you would like to pay for this gas 40 cents and you won't pay more than 40 cents but you tell me you would be glad to pay a dollar if you had the dollar," you can't do that, you would have to judge these wants by what these people are willing to pay, and that is all right, let him use coal. I don't think anybody is going to suffer terribly if he has to burn coal.

Interests of consumer

Q. How about the producer he might suffer if his market is eliminated? (T. 912.)

A. There are not very many producers compared to the

two million people in Kansas. I am thinking of the two million people of Kansas a generation from now.

Q. Dr. Ise, you made reference to the fact that in the early days timber was very cheap and has been wasted scandalously, and I am not arguing that point with you. But isn't the encouragement of the manufacturer in use of cement a very substantial contributing factor in the conservation of timber and lumber?

A. Yes.

Q. Isn't the encouragement of the manufacturer in the State of Kansas and the use in the State of Kansas of commercial fertilizer a substantial contributing factor to soil conservation in this state?

A. Yes, but don't please go on to that now and say that when they make 50 cents worth of ammonium out of a dollar and a half worth of gas that that's good business for the State of Kansas.

Q. Dr. Ise, doesn't the encouragement of the use of electricity for cooking have a direct relationship to the conservation of natural gas in cases where electricity is substituted for natural gas as a cooking fuel?

A. Yes, but, of course, it isn't very important. And that (T. 913) use is coal or maybe gas.

[fol. 272] Conservation, I think, inevitably means to some extent a choice between present low uses and future higher uses.

I have held to my present theory of conservation of our natural resources for 35 years. (T. 917.)

This country has become a have-not nation with respect to some of our very important resources. The position of complacency is not justified.

Q. Do we have any greater scarcity of oil today than we had in 1926?

A. Well, the use we make of it, we are importing a lot of oil.

Q. My question had to do with discovered reserves of oil in this country as compared to 1926.

A. Well, they have more proved reserves than they had 20 (T. 920) years ago, but nevertheless the bigger companies are hunting frantically for oil in all parts of the

world, at the same time saying that there is an abundance and it will last forever in this country. (T. 921.)

Cross examination.

By Mr. Joffee:

. . . . . .

[fol. 273] Q. As a matter of fact, isn't it true that the prices, the average wellhead field prices, in the Kansas Hugoton field average now higher than eight cents per Mcf?

A. I understand so. (T. 931.)

No competitive market

Demand and supply in the sense of a competitive demand and supply in a free market has very little to do with the price of gas in the Hugoton field. (T. 932.)

Q. To clarify some of your previous testimony, do you believe that the increased prices should be passed along the line to all ultimate consumers in order to accomplish conservation?

A. Not necessarily. I think it ought to be passed along to those who are getting the gas too cheaply. (T. 932-933.)

I don't know that I think that consumers, domestic users, should pay any higher price for gas, that wouldn't be the first thing necessary. The first thing necessary would be to cut out the low uses of industrial concerns.

If you mean along the lin[e] from the point of view of wellhead price to the final consumer there, I think that would likely pass along the line. (T. 933-934.)

Domestic consumer not wasteful

I think the main need is not for higher prices for the domestic consumers who already pay a fairly good price. The really wasteful use is the 17 cent use. (T. 934.)

I am not hostile to the industrial concerns, you understand, but those are the lower uses, but a higher price for gas, if it were imposed on the industrial users largely or entirely would prevent the appearance of new industrial

concerns that are planning to waste this gas in industrial production.

There are gas industries being established within the last 6 months for the purpose of using this cheap gas. Now, [fol. 274] a higher price would prevent some of that rather than disrupt the concerns already in business. (T. 935.)

* * * * * * *

Q. Assuming that interstate pipelines could not be financed unless a substantial amount of industrial customers were attached to the system, do you believe that it would be in the over-all economy of the State of Kansas to price the industrial use or demand for gas out of the market?

A. All together?

Q. Yes.

A. Well, you are carrying that to something of an extreme, but I don't know that I'd go that far. I didn't say cut them all out, because some industrial uses are high uses. There are some uses in industry for which they pay higher than most domestic users. (T. 937.)

Q. Now, I want you to state at this time what price you are recommending in this proceeding, if any.

A. It is not my function to recommend any price, I believe. The petitioner here, I believe, has a certain suggestion about that price. I don't know that it is my business to set that.

Q. I am not saying it is your business.

A. I won't contradict the petitioner here on this case, and I don't know that I care particularly about agreeing with them because it wouldn't help anything. (T. 940.)

I stand by what I said here as far as that goes, but how fast you can put that up to 25 cents I don't know. There might be some trial and error in that, but, mind you, I elaborated on that in another place, I said it would be fortunate if it had been that, and I think it ought to be that, but whether you ought to set that up there suddenly, I didn't say any such thing, and I wouldn't say it now.

Q. And you don't want to testify as to what price should be fixed in this proceeding, is that correct?

[fol. 275] A. I don't know as it is my function. The Commission has all the evidence before it and it is a function of the Commission. (T. 941.)

Q. When you state that you think it would be fortunate if the price were fixed at 25 cents, do you have any formula, any test, any pattern, any line of reasoning, whereby you arrive at that conclusion?

A. That's right, line of reasoning, if you put it on that, that 25-cent want isn't a very high want. I think it is still waste as far as that's concerned, but making such adjustments as we do to practical affairs, I should say that one could very well say it is better that that gas should be burned in the next generation for a dollar want than that it should be used today for a 14-cent want. That's the way I'd feel about it. But then it isn't my function to fix a price here.

Higher price now means lower price in future

Q. Do you have anything more than a line of reasoning to support your opinion?

A. No.

Q. You have no formula?

A. That's an economic principle, that's all, that the lower the price now, the higher it will be in the future, and the faster it will disappear. The higher the price now the more consideration you give for future generations, and I think we have given future generations sufficiently little attention in our use of resources, that's all. (T. 942.)

Ways to conserve gas

Q. You have discussed four methods there of raising the price of gas in the Hugoton, Kansas Hugoton, Gas Field?

A. Not raise prices. It said to conserve gas.

Q. Very well. Let us take them up in order. The first one you state is the government might take over the gas field (T. 947) and cut the production drastically, of course [fol. 276] any cut in production would tend to raise the price. Then you go on to state, "That would, of course, be impossible politically and I think inadvisable from some other points of view," will you explain the reasons for that answer?

A. It ought to be easy to see that. You can't go out here and get the State of Kansas to buy up the gas reserves.

They certainly wouldn't want to take them away without compensation. I wouldn't like to run for office on that campaign. (T. 948.)

Q. I am asking you as a witness, as an expert upon this subject, to testify as to whether any conservation occurred as a result of the eight-cent minimum field price which was fixed by this Commission in 1949?

A. Well, nobody could say for one thing because you don't—suppose I say that there was no industry that cut its production, that doesn't prove it, that doesn't prove that there was no conservation, because it might be that that higher price prevented some industry from going into the field who would otherwise have gone. The whole thing is up in the air. (T. 951.)

Q. With respect to the third plan, "the government might levy a heavy tax on production, that would raise the price." Now, what is your objection to that plan, if any?

A. That would raise the price and would conserve.

Greatest good for greatest number

Q. You have testified that as an economist you take the broad social point of view, that is, the point of view to the greatest good of the greatest number, that is your theory of approaching this subject?

A. That is right.

Q. If you imposed through the state a heavy tax on production the taxes would benefit all the people of the State of Kansas and perhaps your own university, wouldn't it, doctor?

A. Well, now, don't jump at that because that tax would [fol. 277] reduce the incentive for exploration and it might prevent some gathering companies from going out into the outskirts (T. 954) and hunting new sources of supply.

Q. Well, you say that would raise the price?

A. Yes, you can do that, but it might be unfortunate to discourage the further prospecting of marginal areas. Also, of course, that tax would have to be fitted in as part of the general scheme of taxation. I don't know that there would be any particular reason for levying a heavy tax on some one particular industry. It would have to fit in with your other taxes. (T. 955.)

The only way to produce conservation is by increasing the price. (T. 956.)

I am not an engineer and I don't know whether you could calculate it or not but I think it is a safe statement that the University of Kansas can run a carload of coal up to its heating plant and dump it out there in five minutes, and I think if I were to use that same amount of coal in my furnace I would have to spend at least 20 times as much labor going down into my furnace and shoveling it in by hand, in the first place hauling it up to my place in a truck and then carrying it up 47 steps to get it into my basement, I think it is a modest estimate to say that would cost me or domestic users in general 20 times as much to use a given amount of coal as it does some big concern that has the apparatus for using that. (T. 958-959.)

Q. Doctor, at the present time, according to your own experience in these proceedings, in dealing with the subject of conservation, is there any limit, in your opinion, as to how high the price per Mcf should go, as a minimum field price, in the Kansas Hugoton Field for conservation purposes?

A. The limit that I have used often that's a theoretical limit is the limit set by the cost of producing the next eligible substitute, but that isn't very useful because there is no eligible substitute for natural gas. (T. 961-962.)

[fol. 278] Waste in carbon black plants

Q. Doctor, do you know of any wasteful use of natural gas in the Kansas Hugoton Field?

A. In the field?

Q. Yes.

A. No, except burning that carbon black, which I regard as waste. (T. 966.)

Stimulation of invention

Q. Have you taken into consideration in your testimony the impact of modern invention with respect to new fuels or alternate fuels for natural gas?

A. I have given a great deal of attention to that, and I would like to say that in order to stimulate the engineers

and technicians and inventors as much as possible, I think it would be nice to raise that price of gas high enough to give them an incentive to get to work.

Q. How high would you want it to go?

A. Oh, I refuse to do that, but I just say that the higher the price the more energetically they will seek this substitute, and if they find it, nobody has any complaint. (T. 970.)

Another pipeline not feasible

Q. Are you aware of the fact that in the Hugoton Field today there are only scattering acreage available for acquisition?

A. That's right, I know that.

Q. You know that there is not enough acreage in any one block to provide reserves for the construction of a large diameter pipe line?

A. I have understood that that's true.

Q. In other words, except for scattering acreage all of the Hugoton Field has been acquired and dedicated or allocated for the use of some natural gas pipe lines, is that correct?

[fol. 279] A. Most of what we know of the Hugoton Field.

Q. That is what I am talking about, the known limits, within the known limits, of the Kansas Hugoton Field.

A. Well, I have assumed that that's true.

Q. And you have taken that into consideration in your testimony here?

A. Yes. (T. 972-973.)

Cross examination.

By Mr. Kyle:

Q. Dr. Ise, assuming that a pipe line company was delivering gas to an industrial customer in Kansas and selling that gas at less than the cost in the field and the incremental cost, in your opinion would that be waste?

A. No matter how high it was?

Q. Yes, sir.

A. Well, there would certainly be some economic waste

involved, wouldn't there, if anyone was selling something below cost? That would indicate a waste of the (T. 973.) resources devoted to the carrying of that gas, at least.

Q. Whether it was 17 cents or the 15 cents or the 25 cents, there would be economic loss in your opinion?

A. There would be loss because they would be devoting capital to the production of something at a waste, and that's always wasteful, not of the gas, but of the capital, but if it is selling for 17 cents, it seems to me that would be waste of the resource. (T. 974.)

Redirect examination.

By Mr. Fleeson:

Q. Dr. Ise, in answer to Mr. Stites' question you stated that a community grows or prospers not because it has a resource but because of its exploitation?

A. Yes.

Q. Do you distinguish as between different kinds of exploitation?

A. Well, in many cases in America we have exploited so fast that the communities in the long run suffer. You see [fol. 280] that in timber areas where you have dead towns and in some mineral towns, too, where the resource is gone, went too fast.

In the oil industry you find hundreds of illustrations where they exploited so fast it was a detriment to the community itself.

Q. Do you find that also true to the gas industry in Kansas? (T. 980.)

A. I think you would.

Q. You also stated that the industrial user will eventually have to transfer to other fuels?

A. That is right.

Q. Just what did you mean by that?

A. I mean that this gas will pay out eventually.

Q. And so the industrial user sooner or later is going to have the problem of conversion?

A. That is right.

Q. And it is just a question of timing?

A. Question of time. He might be better off, as a matter of fact, if he transferred now.

Q. Why do you say that?

A. Well, I can conceive such a thing that a man might 50 years from now look back and be glad that he got into another fuel before, well, at the present time rather than 20 years later. (T. 981.)

Q. Are you familiar with the fact that there has been no discovery of any natural gas fields in Kansas of major importance since the discovery of the Hugoton field?

A. That's right, I am. (T. 982.)

Q. Reference has been made to your text which was published in the United States, or which was published in 1926, "The United States Oil Policy." In that preface to that book you said this, "The history of the United States is fundamentally a history of rapid exploitation of immensely valuable natural resources. The possession and exploitation of these resources have given most of the dis-[fol. 281] tinctive traits to American character, economic development, and political and social institutions." (T. 984.)

"Whatever pre-eminence the United States may have among the nations of the world in industrial activity, efficiency in enterprise, in standards of comfort in living, in wealth, and even in such social and educational institutions as are dependent upon great wealth must be attributed to the possession of these great natural resources, and the maintenance of our pre-eminence in these respects is dependent upon a wise and economical use of remaining resources."

Is that statement as true today as it was when it was made in 1926?

A. That is right, although in 1926 it was more pertinent in a way because there was still more of them left. Some of them are about gone now. (T. 984.)

No free market in Hugoton field

Q. Mr. Joffee referred to the fact of, I believe, a free market. Is there a free market in the Hugoton Field?

A. There is nothing scarcely resembling a free market in the Hugoton Field. (T. 985.)

Witness excused. (T. 985.) (A. Tr. Ct. 52-63, C. A. Tr. Ct. 96-135.)

Testimony of D. A. HOWARD.

Direct examination.

By Mr. Stucky:

(October 21, 1952)

Qualifications

I am an oil and gas consultant engineer. I live at Dallas, Texas. I graduated from Cornell University in engineering and have studied law and have been admitted to the bar in Oklahoma. I am a registered professional engineer in Kansas, Oklahoma and Texas. I worked at the Cities Service Oil Company in the Engineer Department, starting [fol. 282] in 1919, until 1921. I was transferred to the Oil Division and worked as a roustabout and pumper and had charge of operations of the Oklahoma Division in oil production for 10 continuous years, from 1923 (Tr. 366) to 1933. This involved the drilling of gas wells in the Perry Field and a gas well for the Oil Division in the Little River Pool, Oklahoma. I was in charge of gas production for the Cities Service Gas Company from January, 1942, to October, 1945, which involved development of close to a hundred gas wells in the Hugoton Field, including Oklahoma and Kansas. In 1931 I was transferred to the East Texas Field and drilled approximately 25 wells for the Oil Division. It involved the handling of low pressure, of very heavy natural gas. Between 1933 and 1943 I was doing special work (Tr. 367) for the president of the company, which involved, among other things, proration work before the Commissions of Texas, Kansas, Oklahoma and Michigan.

I became connected with the Republic Natural Gas Company October 1, 1945, and I was vice-president until 1950. This involved the drilling of gas wells in the Hugoton pool in Oklahoma and Kansas, the recommendations and the supervision of the size of pipe to be used, and so forth.

An extensive gathering system was designed and placed in the operation during my service with Republic Natural Gas Company. (T. 368.)

I am familiar with the Hugoton Gas Field, and particularly that portion in Kansas.

I am familiar with the drilling and the production and the gathering of natural gas in the Kansas Hugoton Field.

I have had actual experience in connection with that.

I am also familiar with the necessity and procedure (T. 369) in unitizing acreage and drilling and operating units.

I worked with that problem before the Kansas Commission on many wells which in-olved unitization on a 640 acre basis.

[fol. 283] I spent a portion of my time in arranging for negotiations of sales, gas contracts, and that sort of thing.

Methods of marketing wellhead gas

Q. Will you state in a very general way . . . the different methods by which gas in the Hugoton Field is marketed?

A. The pipe line company takes gas at the well head, that is one way the gas is marketed.

The other way is by gathering by producers and delivering to the purchaser at a common point of delivery. (T. 370.)

As near as I could tell from the September proration order of the Commission, the Kansas Commission, approximately 16.7 percent of the producing gas wells in the Hugoton Field are owned by interstate carriers or pipe lines companies who take the gas from the wells and put it into their interstate lines and market it at points removed from the field, who, for the most part, are in interstate commerce.

The remainder of the wells in the field are owned by others. Some of this gas owned by others is sold at the wellhead and some is sold at a point removed from the wellhead. (T. 371.)

Q. Now, drawing your attention to the gas which is sold through these various agreements you have referred to, what is the point of delivery?

A. Portions of the gas produced is sold at the wellhead and other portions of the gas are delivered to the pipeline company at some point in the Hugoton Field, in Kansas, after being gathered by the producer. (T. 371.)

I have examined a large number of these contracts. (T. 372.)

I have examined a resume of 117 of them in the high spots, and I have read through about 40 others. Otherwise I am generally familiar with the contracts.

There are a number of contracts on which the seller of [fol. 284] the gas gathers the gas at some common point in the field. That point is in the field but it is not at the wellhead.

There are a number of contracts at which gas is sold at the wellhead. (T. 373.)

Q. Now, in the instances where the gas is marketed at a point removed from the well, there, of course, is no market for the gas at the well, is that correct?

A. There is no direct market at the well. It is gathered, and then the market is removed from the wellhead. (T. 374.)

So there is only one price for it, and that is at a place removed from the wellhead. The seller couldn't sell it before the time he delivered it because it provides that it has to be sold to the man who signed the contract at a point removed from the well. (T. 374.)

Life of lease, fixed-price gas purchase contracts

I am familiar with what are known in the industry as the life of lease, fixed-price gas purchase contracts.

As to their history, in the early days it was very important to get a certificate of necessity and convenience to have a supply of gas to the pipe line over sustained periods. I mean the gas had to be dedicated to the line in order to get the certificate. But in recent years, that is, in the last three or four years, generally these contracts are stipulated for a certain length of time, such as 20 years with escalator price clauses in them at the wellhead, and the other contracts with which I am familiar for delivery are generally by negotiation for certain stated intervals. (T. 374-375.)

There are no such contracts in the oil industry where you dedicate all of your oil over the life of the whole production.

No day-to-day market for wellhead gas

In the Hugoton Field there are no exchange or market quotations or posted prices as to the wellhead price.

There is no day to day market price. There are some [fol. 285] contracts—there is one that I discovered that is interruptible on a 30-day notice, but it is not on a day to day basis. (T. 375.)

Relative bargaining positions of buyers and sellers of wellhead gas

Q. Generally what's been the history of the competitive bargaining positions of buyers and sellers of gas in the Kansas-Hugoton Field? (T. 375.)

A. Well, to be kind of blunt about it, the producer was at the mercy of the purchaser, and the royalty owner was in a very inferior position to the producer. (T. 376.)

That's as distinguished from what happens in the oil industry.

New pipeline not feasible

It would not be economically practical for a new interstate line to be built extending its gathering system into the scattered undedicated acreages in the field now. (T. 376.)

I have made a study of the more recent gas purchase contracts. (T. 377.)

Qualities of well-head gas, L. P. G.'s

Q. What are the qualities of wellhead gas which give it value, and I refer to the gas as it comes from wells, that is recognized by buyers and sellers?

A. Well, it's the dry gas, and the L. P. G.'s, that is, the liquefied petroleum gases that are contained in the gas at the well head. (T. 377.)

Such hydrocarbons and liquefiable fractions are an integral part of the gas as it flows from the well. These hydrocarbons and fractions enhance the market value of the gas at the well. The gas is worth more because it has these hydrocarbons.

As to the sources of revenue or return realized by takers of gas from the Kansas-Hugoton Field, (T. 377) in con-
[fol. 286] tracts which reserve the right to extract by the producer, he obtains cash from the residue gas and also the cash receivable from the L. P. G.'s

In cases where the raw gas at the wellhead is not treated by the producer, then the producer only has access to the income from the gas as it comes from the well.

As to why hydrocarbons are pure and natural gas is methane, it is CH-4. The petroleum molecule is a chain molecule, and as the number of carbon at times increase to two you get ethane and three is propane and four is butane and five is penthane, at which point you come into the gasoline series, which goes up to about C-10.

Methane is liquefiable at a tremendously high pressure and low temperature. Butane is the one that is right on the borderline between a liquid and a gas at a fairly normal temperature. Butane boils at 2 degrees above freezing, at 34 Fahrenheit. (T. 378.)

As gas blows from the wells, these hydrocarbons generally are in a gaseous state, except in colder weather. You will find as they go through the line the heavier fractions, such as the gasoline cut, will at times in small amounts liquefy due to the reduction in temperature, and along the big lines, and along the gathering lines at various places they have what they call drips which collect this liquid as it comes out of the flow of the stream of gas. (T. 379.)

Q. Does the s[illegible]ng company or does the buying company under these various contracts derive the proceeds from the sale of these liquefiable hydrocarbons?

A. Well, in some instances where the producer reserves the right to extract, in that case the producer or seller gets it, but in most instances it goes into the stream as raw gas to the buyer, and in those cases, of course, the whole asset accrues to the buyer. (T. 379.)

An example of a contract in which the seller extracts these hydrocarbons prior to delivery by the buyer is the one between Colorado Interstate and United Gas Produc-
[fol. 287] tion Company, in which they reserve the right, after the gas is gathered, to tap the pipe line of Colorado Interstate, which in the contract it agreed to purchase from

United, treat the gasoline and from the down stream side of the plant re-inject it into the pipe line of Colorado Interstate.

The Hugoton production contract with the Kansas Power and Light Company is quite similar, except for the fact that at a certain point on the system just before delivery into the Kansas Power and Light Company's system the Hugoton Gas Production Company, by contract, has agreed to build a plant to extract the hydrocarbons from that gas, and (T. 380) own it and return it back, the residue gas into the Kansas Power and Light Company system. (T. 380-381.)

They were extracting gasoline in Oklahoma in 1917, the Texas Company had a plant, as I recall, and it was very lucrative because the price was good.

In the Hugoton Field they started extraction roughly in the early 1940's. (T. 382.)

Well-head value of gas, factors taken into consideration

I have examined these recent contracts that I have mentioned for the purpose of determining the value of gas at the wellhead in the Kansas-Hugoton Field at this time under those contracts. (T. 382.)

Q. What various factors did you take into consideration in your studies?

A. Well, the quality of the gas, that some of the gas has only 12 percent nitrogen in it, and a small trace of CO-2. Other gases there, of northeast, Moscow, the gas, I understand contains about 14 percent nitrogen which decreases its thermal content. (T. 383.)

I considered the date of these various contracts. I considered the number of acres that are dedicated under the contract.

I considered whether the sale was a wellhead sale or the sale after gathering.

[fol. 288] I considered if it was a sale after gathering, that it costs money to gather gas.

I considered the relative bargaining positions of the various parties to see whether the sale approached being what you might say an open market. (T. 383.)

I considered the obligations to furnish minimum and maximum quantities of gas.

I considered the warranties and the necessity of maintaining reserves and pressures.

Some sellers are in a better bargaining position than others. The seller who has a large reserve, a lot of acreage in a block or fairly closely concentrated in a block which is not dedicated, and which under contract is being sold on, say, a five or ten year period, at the end of that time, on account of the tremendous competition for reserves in that field, that he has a number, let's say, of buyers, ready, willing and able, to take that gas, and he can make his choice as to which will give him the best price on it. (T. 384.)

Q. Have you examined a number of these contracts with (T. 384) regard to which by reason of these factors, the seller could sell the gas to perhaps two or more purchasers and bargain with them?

A. Well, at the time that the Hugoton Production Company by law were permitted to separate that undeveloped acreage formerly held or purchased that undeveloped acreage formerly held by Panhandle Eastern, that acreage was in such a strategic position, and in one of the best parts of the field, in the central part of the field on the west edge, that I in my best judgment, my opinion would be that they could sell to more than one purchaser. (T. 385.)

That contract indicates more balance and bargaining power between the parties than the old life of lease gas purchase contracts. (T. 385.)

A lot of those old life-of-lease contracts are in effect. [fol. 289] Life of lease contracts are all in effect. There are still some old 4 cent contracts that are still in effect, and were it not for the order of this Commission they would still be paying 4 cents under them. (T. 386.)

There are many prices of gas sold at the Hugoton Field today that are substantially above the 8 cent minimum. (T. 387.)

Direct examination.

By Mr. Stucky (continued):

(October 22, 1952)

Two contracts which most nearly reflect free competitive market

Regarding contracts in the Kansas-Hugoton Field with regard to which by reason of the factors that I mentioned the seller could sell the gas to perhaps two or more purchasers and bargain with them, I have in mind the contract between the Hugoton Production Company and the Kansas Power and Light Company and also the recent contract between the United Producing Company and the Colorado Interstate Gas Company. (T. 398.)

These two contracts indicate more balance in bargaining power than the old gas purchase contracts. They have more than one possible outlet for the gas; second, is that they have substantial reserves which would improve the trading position of the seller by the sale of the gas which also would improve the reserve position of the buyer. It is only by reason of these factors that I have mentioned, namely, having large reserves, and control over considerable amounts of production that the Hugoton Production Company, and United Producing Company, were able to bargain with any degree of equality with the buyer.

In other words, while it is not an open market as we know it in the oil industry, there are several possible purchasers to which the gas may be sold. These contracts were entered into under conditions simulating to the largest degree possible in the Hugoton Field, the conditions of a free, competitive market. (T. 399.)

[fol. 290] In making my study as to the wellhead value of gas in the Hugoton Field, I took into consideration the fact that, in a number of these contracts, gas is not sold at the wellhead but at some point removed from the wellhead or place of production. (T. 400.)

I took the price of gas at the nearest place where it has a price under these contracts and considered the various expenses of preparing it for that market.

In other words, it is not worth as much when delivered at the wellhead as when the gas is delivered at a common point to the purchaser. (T. 401.)

Q. Perhaps I have already mentioned this, but will you briefly tell me what elements of value other than the actual physical contents of gas are taken into consideration by buyers and sellers of gas in the Hugoton Field?

A. The length of the term of the contract, the dedication or whether or not the reserves are dedicated to the pipe line for the life of the leases, the right to require delivery of definite quantities of gas, the right of the buyer to require gas to be delivered against the varying base pressures in the pipe lines, and other related factors. (T. 401.)

Value of well-head gas in Hugoton field

Q. Based on the study you have just described and on the elements other than the qualities of gas you have referred to and based on your knowledge of recent gas purchase contracts in the field and the prices under these contracts, do you have an opinion as to the value of gas at the wellhead in the Kansas-Hugoton Field?

A. Yes, sir. (T. 402.)

Hugoton Production Company—K. P. & L. contract

Chairman Robertson: The objection will temporarily be sustained, and you will now be required to put in the prices provided for in the contract. (T. 408.)

[fol. 291] I have examined the contract of the Hugoton Production Company with the Kansas Power & Light Company. It was executed October 18, 1948.

All of the gas under this contract is consumed in Kansas by Kansas consumers.

I have made a study as to price or Mcf which the Kansas Power & Light Company pays to the Hugoton Production Company for gas under this contract. That figure is 14.27 cents per Mcf on a pressure base of 16.4. The contract price provides two methods of determining the price and is based on the fundamental pressure base of 14.9.

That 14.27 cents on a 14.65 basis of measurement is 12.74 per Mcf. (T. 409.)

The Kansas Power & Light Company pays to the Hugoton Production Company an average of 14.27 cents on a 16.4 pressure base for all of the gas under this contract, all of which is consumed in Kansas.

The Kansas Power & Light Company obtains no hydrocarbons out of this gas. (T. 410.)

They pay this price for residue gas after the hydrocarbons are extracted.

I have made a study as to how much the Hugoton Company gets out of the hydrocarbons prior to delivering the gas to the Kansas Power and Light Company.

The gross receipts, according to the records, is 3.469 cents per Mcf on 16.4 pound base. That would be in addition to the 14 and a quarter, but that is not a net figure.

I heard Mr. Shattuck's testimony yesterday of a net figure of a fourth to a half cent, if extraction is made. (T. 411.) Those are comparable figures, one is a gross and one is a net. (T. 412.)

If the field price for residue gas shipped out of the Kansas field, after gathering and extraction were 14.27 cents, the company shipping the gas out of the state would not [fol. 292] pay any more than the Kansas Power and Light pays for gas consumed in Kansas. (T. 413.)

During the first six months of 1952 the Hugoton Production Company delivered to the Kansas Power and Light Company residue gas at the downstream side of the gasoline plant at Hugoton the total value of 13,399,003 Mcf. (T. 414.)

As to what they realize at the wellhead, the 13,399,003 Mcf divided into the receipts of cash money as shown on the statement of the company, $1,738,373.22, gives a value, at 14.9 base, delivered with corrections made for deviation (T. 414) from Boyle's law temperature corrections, and corrections for specific gravity, gives a value of 12.97 cents per Mcf.

Corrected to 16.4 at the point of delivery, the price figure is 14.27. If you convert that to 14.65 base, it is 12.74 cents per Mcf. (T. 415.)

With a residue price at delivery point of 14.27 cents per Mcf, and allowing for an extraction net profit of 50 cents, based on the testimony of Mr. Shattuck yesterday, which

stated, as I recall, it was somewhere between .25 and .50 cents, the total income net would be 14.77 cents per Mcf.

In considering a reasonable, and probably might be a little high, cost of gathering of 75 cents to transport the gas from the wellhead through the gathering system and deducting that expense from the income of 14.77 cents, leaves a net value at the wellhead of 14.02 cents per Mcf on a 16.4 basis of measurement. (T. 415.)

That is the contract that's frequently referred to as a 12-cent contract. (T. 416.)

The gas that is consumed in the electric plants is based on a price of 15 cents per million b. t. u.'s, when coal is delivered at the Tecumseh plant, six or eight miles of Topeka, at a base price of $5.50 a ton. (T. 417.)

As the price of coal either increases or decreases, there [fol. 293] is added to the 15-cent price an increase of 1 mill and a half for every increase or decrease in 5 cents per ton for coal. (T. 418.)

The other gas that is delivered to this plant is at 12 cents per Mcf on a 14.9 base.

Those two prices when calculated together over the six months' period of the first half of 1952, when divided into the gas delivered down stream from the gasoline plant, gives a price on a 16.4 base of 14.27 cents per Mcf. (T. 419.)

The price of the gas for industrial purposes in this contract is higher than the gas used for other purposes. (T. 419.)

The average price for the industrial gas per million b. t. u.'s is 1.59. The average price of the other is only 12 cents per Mcf. It is lower. (T. 420.)

The 12 cent gas is gas that is about 1,000 b. t. u.'s per cubic foot or slightly less. It isn't less than 5 percent. (T. 421.)

Change in contract prices since 1948

I have examined the contracts of the various companies to determine the change of prices in the field since the previous hearing in this case in October of 1948.

Colorado Interstate contracts

Referring first to the contracts of Colorado Interstate Company, the prices paid were about 6 cents per Mcf on a 16.4 base for a 5-year period. (T. 422.)

An example is the Wood River Oil and Refining contract which was subsequently assigned to the White Eagle Oil Company. The date of the contract was October 25, 1948. (T. 422.)

The price provided for in the most recent contract of that company is thirteen cents per Mcf on a 16.4 base at the wellhead for the first five years.

[fol. 294] There is an escalator clause in that contract.

The date of the contract is July 1, 1952. (T. 423.)

Article 9 of the contract provides that the price for all gas delivered to the buyer by seller under this contract shall be as follows:

> "During the first five years commencing with the first delivery of gas hereunder, or January 1, 1953, whichever is earlier, 13 cents per Mcf. During the second five years 14 cents per Mcf, during the third five years 15 cents per Mcf; and during the fourth five years 16 cents per Mcf. The price during each five-year period beyond the 20-year period of this contract shall be negotiated, and failing negotiation shall be arbitrated in accordance with the provisions of Article 17 in this agreement, but in no event shall the re-negotiated or arbitrated price be less than 16 cents per Mcf." (T. 424.)

Under the six-cent contract that I referred to, the Wood River contract, in which the seller now is White Eagle, the buyer was entitled to the L. P. G.'s.

Under this new contract the seller has the right and option at any time to extract the L. P. G.'s from the gas and redeliver the residue gas to the buyer. (T. 424.)

Q. Disregarding the value of these L. P. G.'s which the seller retains under this contract, what percentagewise is the increase in the wellhead price over this four-year period as shown by these two contracts?

A. The price has been adjusted upward from six cents

per Mcf on a 16.4 base to 13 cents on the same pressure base, which is over double the price.

Q. And you don't take into consideration the L. P. G.'s when you say that, is that correct?

A. That is correct. (T. 425.)

The contract involves a total of developed leases in Stanton County, Kansas, of 9,865 acres.

[fol. 295] Undeveloped leases under the contract in Exhibit A in Stanton County, Kansas, is 11,022 acres. The total acreage involved in developed and undeveloped leases in Stanton County, 20,888 acres.

There is also acreage involved in this contract in Haskell County, Kansas, the developed acreage is 1,920 acres and the undeveloped acreage is 640 acres, so that the total acreage involved, developed and undeveloped, in Haskell County, Kansas, is 2,560 acres. (T. 426.)

Panhandle contracts

Taking the contracts of Panhandle and the price provisions of these contracts on and prior to October, 1948, the nearest contract to that date before the hearing in October, 1948, was a contract of April 24, 1947, with Cities Services Oil Company, providing for a wellhead price of 6½ cents per Mcf on a 16.4 base, returnable 15 years.

Most of the Panhandle contracts that I examined were four or four and a half cents per Mcf on a 16.4 base. (T. 427.)

Those four and four and a half cent contracts were in existence in October of 1948.

Panhandle's most recent purchase contract is dated January 22, 1952. (T. 428.)

The sellers are Norville Ballard and others. The price is 8.3 cents per Mcf on a 16.4 base.

That represents an increase of approximately 28 percent. (T. 429.) It more than doubles the four cent controls.

There is another Panhandle contract providing for a higher price than the Ballard contract of January 22, 1952. It is a contract in which the Panhandle sells gas to the Quinque Oil and Gas Producing Company. The date of the contract is October 25, 1950. (T. 429.)

The price is 13.2 cents per Mcf on a 16.4 base, although the gas is measured on a 14.9 delivery pressure base at 12 cents.

[fol. 296] The royalty owners receive 13.2 cents per Mcf on a 16.4 base from Panhandle under this contract. This contract price is more than double over the Cities Service 1948 contract with Panhandle. (T. 430.)

Northern Natural contracts

The most recent Northern contract prior to the 1948 hearing was the contract with the Wood River Oil & Refining Company, dated August 23, 1948, and the Wood River Oil & Refining Company interests have been assigned to the Stevens Oil & Gas Company and White Eagle.

The price in that contract is six and a half cents for 15 years for gas not less than 950 b. t. u.'s on a 16.4 pressure base, at the wellhead.

Northern's most recent contract is one with John B. Hawley, Jr., and the Stanolind, dated April 2, 1952. The price is eleven cents per Mcf on a 16.4 base at the wellhead for gas with the b. t. u. not less than 950. (T. 431.)

The increase has been from six and a half to eleven. It has been almost double. Practically 69 percent is the answer.

Cities Service contracts

The most recent Cities Service contract before October, 1948, was a contract between Cities Service Gas Company and the United Producing Company dated March 21, 1948, six and a half cents per Mcf for the life of the leases, and the six and a half cent prevailed on the first five years of the contract. The base of measurements was 16.4 and 60 degrees temperature with the seller reserving the right to extract the L. P. G.'s.

The most recent Cities Service contract is one with Stanolind Oil & Gas Company and the Shell Oil Company, dated April 29, 1952. (T. 432.)

The price is 8.4 cents through 1961 on a pressure base of 16.4, and is dedicated for the life of the lease with the gas

[fol. 297] being taken at the wellhead. It is tied in with June 23, 1950, contract with Stanolind.

Stanolind has the right to extract the liquefiable petroleum gases, L. P. G.'s, in addition to getting the 8.4 price.

The increase in price disregarding the L. P. G.'s in both the old and the new contract is from six and a half cents to 8.4 cents or slightly under 30 percent increase. (T. 433.)

Kansas-Nebraska contracts

Q. Now take the Kansas-Nebraska Company, what was the most recent contract in October of 1948?

A. I do not have that information, but I know what their highest contract was in October, 1948.

Q. And what was that price?

A. Under the contract between Kansas-Nebraska, Finker, W. B. Osborne, and White Eagle, and also a contract with Stanolind, on these various contracts the price was five cents at the wellhead on a 16.4 base. (T. 433.)

The most recent contract is one with Magnolia Petroleum Company dated the 19th day of May, 1952, providing for 11 cents on a 16.4 base during the first five years of the contract. They have other 11-cent contracts with the Skelly Oil Company and Nate Appleman. (T. 434.)

Opinion of well head value of gas in Hugoton field based on study of gas purchase contracts

Based on the study that I have described previously in the testimony, and based on my knowledge of recent gas purchase contracts, I have an opinion as to the value of gas at the wellhead at the Kansas-Hugoton Field. (T. 435.)

My opinion as to the value of gas at the wellhead in the Kansas-Hugoton Field, is that it is at least 14 cents per Mcf on a pressure base of 16.4 pounds per square inch absolute and at a temperature of 60 degrees. (T. 437.)

I would say that that would be based on a b. t. u. content [fol. 298] within the limits of 950 to a thousand b. t. u.'s per Mcf. (T. 437.)

* * * * * * *

Cross examination.

By Mr. Conway:

(December 17, 1952)

Additional qualifications

I own no interest in any royalty or production in the Hugoton Gas Field.

I own no stock in any company that owns any interest in royalty or production of natural gas.

I examined a resumé of 117 contracts. It was the resumé as written out by the various purchasers themselves. (T. 1004.)

This resumé in general had the date of the contract, the seller as identified, the price of the gas, and in some instances a pressure base, and the term of the lease, whether or not it was dedicated for the life of the lease or on a term basis.

Some of the contracts in the resumé would indicate renegotiation of price at certain intervals and the method whereby arbitration would be invoked in the event that the two parties could not agree. (T. 1005.)

[fol. 299] Lack of free market for wellhead gas causes price to be fixed by buyer

Q. Mr. Howard, isn't it a fact that natural gas has no more value at the wellhead in its natural state other than what the seller is willing to sell it for and the buyer is willing to pay for it?

A. That is correct to the extent that the value of the gas is measured on a basis of the price that is paid in the field at the highest rate by the purchaser in the field.

Q. And if that would not be the basis of negotiation and would not be accepted on the part of the seller, then, true, again it would be what the seller was willing to (T. 1007) sell it for and the buyer was willing to pay for it, wouldn't it?

A. That would be true, Mr. Conway, in a free market. But where the producer or the seller is at a disadvantage

to the extent that he cannot sell his gas unless that gas is sold on a basis fixed by the buyer, then in that event that is not true what you said. (T. 1008.)

Contracts which most nearly reflect free market

Q. The question is, has there not been a free market on gas available for contract after March 1, 1949?

A. Not a completely free market. (T. 1009.)

Here is a gas contract with the United Producing Company and Colorado Interstate of July 1, 1952.

There is the Cities Service Oil Con pany with a contract with Shell and Stanolind, dated April 29, 1952, is another one.

Then there is a Hugoton contract with the United Production Company, July 1, 1952. (T. 1010.)

By Commissioner Stiles:

Q. With reference to the last three contracts, Mr. Howard, was there a free market for the seller of the gas?

A. Not as known as in a free economy. I would say this, Mr. Commissioner, that it most nearly approached a free [fol. 300] economy than any other contracts that had heretofore been concluded in the pool, for the reason that the seller had large reserves, had large reserves of natural gas, which were very attractive to the purchaser, for the reason that the reserves in this pool were at the point where the purchaser would like to increase his reserves for future use. (T. 1012.)

Hugoton production—K. P. & L. contract—computation of price

I arrived at the average price under the Hugoton-K. P. & L. contract as follows:

For the first six months of 1952 the sales to the Kansas Power and Light Company by the Hugoton Production Company, according to Boyle's law, etc., was 13,399,003,000 cubic feet.

Now, according to an amended agreement to that contract the parties agreed that one-fourth of the gas delivered

under that contract would be attributable to industrial gas [fol. 301] and three-fourths would be attributable to other uses, that is, commercial and domestic.

When you separate the 13,399,000,000 cubic feet, you apply to three-fourths of that amount on a cubic foot basis, 12 cents per Mcf on 614.9 base. (T. 1018.)

On the other fourth of the gas that goes to industrials, they pay on the base of 15 cents per million b. t. u.'s.

When the price of coal delivered to them at the Tecumseh Station here east of Topeka increases above $5.50 a ton, then in that event the price on this industrial gas is increased one and a half mills per every 5-cent increase in the price of coal.

Now, the way I got my figure here was that I took the 13,399,000,000 cubic feet and divided into the money received by the Hugoton Production Company during the first six months as stated on their statement. (T. 1019.)

That is the latest record that was available to us from the Hugoton production. (T. 1022.)

There is no limitation as to how high it can go if the price of coal out here at Tecumseh goes above a certain figure.

It can't go below 12 cents per Mcf, regardless of how low the coal prices might go. (T. 1023.)

The Kansas Power & Light right now on an average are paying more than 14 cents per Mcf on a 16.4 basis.

As of June 1, there were 125 wells. There is now approximately 145 wells, and the total leases, the total wells to be connected to this pipe line will be a maximum of 152 wells. (T. 1027.)

At the time of June, 1952, there was 140 miles of four-inch pipe line, there was 24 miles of eight-inch, six and eight-inch combined, but I think most of it was eight-inch. There was six miles of 16-inch. (T. 1028.)

This gas is delivered to a central point. (T. 1031.)

[fol. 302] It is on the downstream side of the gasoline plant owned and operated by Hugoton, in Section 10, 30 south, 37 west, Grant County, Kansas.

The value at the well head would be the delivered price at a central point less the cost or reasonable charge for gathering and getting it to that central point. (T. 1032.)

All of this production of this Hugoton Company is produced and marketed by the Hugoton Company. They own the leases or own parts of leases where there are units. (T. 1034.)

They take roughly 10 percent of the current allowable from the Kansas-Hugoton Field.

Colorado Interstate-United contract

On the Colorado Interstate-United contract, dated July 1, 1952, the gas is to be taken at the wellhead. (T. 1036.)

The pressure base is 16.4. (T. 1037.)

If Colorado Interstate doesn't take the gas at a certain time, why, they must pay for the gas, anyway. (T. 1038.)

In that case United has the right to extract, it has the option and the right to extract wi-hout affecting the price. (T. 1039.)

On this Colorado Interstate-United contract, United is the owner of the leases and the owners of the well and the owners of that production that is being sold to Colorado under the contract, to the best of my knowledge. There could be some slight variations on joint wells.

Quinque-Panhandle contract

On the Quinque-Panhandle contract, the price is 13.2 cents on a 16.4 basis, which is the equivalent to 12 cents on a 14.9 basis, points to be opened upon delivery. (T. 1043.)

Panhandle is the seller. Quinque furnishes the gas to the City of Liberal, Kansas. (T. 1044.)

Panhandle is paying 13.2 cents to the royalty owner on this gas that is delivered to Quinque. (T. 1048.)

[fol. 303] Further qualifications

In preparation of my testimony, I received information concerning the gasoline plants in the Hugoton pool in order to determine their location and the average gathering price for gas delivered to the plant, a fair price for treating the gas, that is, allowable to the producer, the owner of the plant.

I took into consideration the amount of acreage of each contract, the date of the contract, the term of the contract, whether it was dedicated gas or not, or if it were on a term basis, or with renegotiation provisions on it. (T. 1057.)

Why average price is not fair price

Q. Don't you think the average might be a little fairer to point to than the peak or the top?

A. No, sir.

Q. If you were a buyer, wouldn't you want to talk about the average price?

A. No, sir. I would go in and pay the price—I would go in and pay the price that is the same for every purchaser in the pool, and that price is the highest price that any purchaser is paying under the same circumstances.

Now, this gas that is being sold in the State of Kansas, 14.72, certainly, the gas that is transported interstate is worth that much in Kansas. (T. 1059.)

In the pricing of gas in the Kansas-Hugoton Field, the general trend is upward. (T. 1062.)

By Mr. Joffee:

Q. I notice in the standard form of royalty gas lease the provision that if gas is marketed by the lessee off the leased premises, then the royalty owner gets one eighth of its market value at the well, that is the standard form, is it not?

A. Yes, sir.

Q. Do you know whether that provision is being enforced by the royalty owners in the Kansas Hugoton Field?

A. The royalty owners can enforce nothing. The royalty [fol. 304] owner receives what the producer is able to contract for with the purchaser.

Q. But calling attention again to the provision, the lease provides, the standard form of lease provides, that the lessee shall pay lessor his royalty from each well where gas only is found one eighth of the proceeds if sold at the well, now, that is what you are talking (T. 1062) about but if it is marketed by the lessee off the leased premises then what is one eighth of its market value in the well?

Mr. Stucky: I object to this as improper cross-examination.

Commission not proper forum to litigate price provision of leases

Commissioner Stiles: I believe it is improper cross-examination. If the contracts are not being complied with why, certainly the parties have a remedy in some other forum but not as part of this proceeding. (T. 1063.)

Redirect examination.

By Mr. Stucky:

Free market would meet highest price

Q. Assuming that a free market were established for gas in the Hugoton Field will you state whether the price established at the present would meet the weighted average price of the highest price presently paid in the field?

A. The highest price. (T. 1066.)

Witness excused. (T. 1067.) (A. Tr. Ct. 63-65, C. A. Tr. Ct. 135-158.)

Testimony of J. M. WANENMACHER

Direct examination.

By Mr. Fleeson:

(October 22, 1952)

Qualifications

I live in Tulsa, Oklahoma. I am a consulting petroleum engineer. I graduated from Missouri School of Mines in 1923, obtained a Master's Degree in geology from Wisconsin University in 1924, Doctor's Degree in geology from Wis-[fol. 305] consin University in 1932. (Tr. 984.) I did some summer work while going to school in Wisconsin. From May, 1926, to February, 1931, I was geologist for the Gulf Oil Company in their foreign department. Spent two years in Venezuela and Colombia where I did field mapping. The remainder of the time was in the New York office as assistant to the chief geologist.

As assistant to the chief geologist of Gulf Oil Company

I had charge of production records, and attempts to estimate reserves.

From July 1932, until the end of 1945 I was in the employ of Shell Oil Company.

Approximately the first five years, I was in the Tulsa office, after taking a year of production training in the field. My duties consisted of making studies of the oil fields, recommendations for further development, and preparing detailed recommendations as to the economics of drilling oil and gas wells.

1937, April, until the latter part of 1938, (T. 485) I was division exploitation engineer, in McPherson and Wichita, Kansas, in charge of the work done in the State of Kansas. Under my supervision recommendations were prepared for each well that was drilled, a casing program, the completion practice, and the actual acidization, and all necessary work was done under my supervision, also supervised evaluations of properties offered for sale, the estimation of Shell's reserves, and any reservoir studies which were made at that time. (T. 486.)

From November, 1938, to June, 1939, was doing special surface work in the Tulsa office of Shell.

June, 1939, to December, 1939, I was on assignment to the Shell Hague office in Holland. The duties consisted of a review of Mid-continent activities with the executives in that office, and recommendations as to proposed purchase of producing acreage, creating the producing acreage, with [fol. 306] competitors, proposed gasoline plant construction and other duties.

From January, 1940, to April, 1942, I was division exploitation engineer for the North Texas Division, which included the Texas Panhandle, and was stationed at Wichita Falls. The duties were the same as (T. 486) those outlined during my experience in Kansas as division engineer. During this period I supervised the valuation and purchase of several producing oil companies.

From April, 1942, to August, 1943, I was in charge of a large special sub-surface study department which was set up to study the geology of Oklahoma and other territories.

August 1943 to 1944 I was returned to the production department in charge of pool studies and supervised a staff of men in four states doing that work.

I am a member of the Association of Petroleum Geologists, that is the American Association of Petroleum Geologists, the American Institute of Mining and Metallurgical Engineers, the American Petroleum Institute, Engineers Club of Tulsa, and Tulsa Geological Society. (T. 487.)

From January, 1945, to the present time I have been a consulting engineer. (T. 487.)

Our firm has been in business approximately 8 years. About one half of our work has been devoted to the appraisal, estimation of reserves, and appraisal of producing and unproducing oil and gas leases.

The remainder includes some work in presentation of evidence to courts and state oil and gas commissions, investigation of secondary recovery, possibilities of fields and the actual recommendations as to what sources should be followed in secondary recovery, geological studies of areas, detailed geological and engineering studies of oil and gas fields, recommendations as to merits of drilling deals offered clients, review of appraisals of others, advice in development and well completions, and advice and guidance in purchase of properties.

[fol. 307] Our experience has covered the natural gas industry, with particular reference to the production, transportation and utilization of natural gas. (T. 488.)

I am familiar with the Hugoton Gas Field and particularly that portion of the Hugoton Field which lies in Kansas.

We have studied the reserves of the Kansas portion of the field. We have studied the reserves of individual leases located in that field. We have advised clients on whether or not to undertake development from an economic standpoint. (T. 489.)

Producing horizons in Hugoton field

I am familiar with the gas producing horizons in the Hugoton Field in Kansas.

The horizons are Permian Age depths of approximately 2,400 to 2,800 feet. The gas pay zones are found in limestones which are called the Herington, Krider, Winfield

and Fort Riley zones. The gas is found in the dolomite sections of these limestones. (T. 489.)

Kansas Hugoton field common source of supply

In my opinion the various producing horizons in the Hugoton Field constitute a common source of supply.

This is because approximately 2,800 wells have been completed in the field and each of these wells has all of the producing zones open. Therefore, the gas from each zone has had the opportunity to migrate to other zones.

In my opinion there are approximately 2,630,000 acres in this common source of supply in the Kansas portion of the field. (T. 500.)

Drainage of gas

Petitioner's Exhibit 26 is a map showing the approximate limits of production of the Kansas portion of the Hugoton Field. (T. 502.)

The September 1952 proration report shows 1,765,444 acres are attributable to the gas wells presently in the field, that is the present developed acreage.

[fol. 308] Approximately two-thirds of the productive acreage is devoloped. (T. 503.)

Petitioner's Exhibit No. 26 was received in evidence. (T. 503.)

Q. Do you have an opinion as to whether or not a few wells drilled in this common source of supply, operating for a long enough period of time, would drain a large part of the entire reservoir?

A. Several wells scattered throughout the field would drain a large part of the reserves but not all of them. (T. 503.)

Natural gas is more fugacious than crude oil in its natural state. It has a low viscosity, it is very fluid. It moves under low pressure differential. It will move easily from an area of high pressure to one of lower pressure.

The drainage of gas reservoirs is more extensive and more rapid than drainage of an oil reservoir.

The original virgin wellhead pressure of the Kansas por-

tion of the Hugoton Field was approximately 440 pounds. (T. 504.)

Q. From your knowledge of the development of the field do you know what the pressure relationship is between new wells that are being drilled in old proven areas of the field adjacent to the wells which have been producing for several years.

A. Yes.

Q. What are the pressure relationships?

A. The pressures are in general only slightly higher than those of the older wells.

Q. What, if anything, has been the effect on the proven undeveloped acreage as the result of producing gas from adjacent developed acreage in the Hugoton common source of supply?

A. It has been drained almost as effectively as the producing acreage, developed acreage. (T. 505.)

The direction of the migration of gas in a common source [fol. 309] of supply is from the areas of high pressure to the areas of low pressure. (T. 505.)

Q. What effect does the drilling and producing of a single well in a common source of supply have on gas underneath the surrounding acreage?

A. The surrounding acreage for a considerable distance will be drained of its gas. (T. 505.)

Reserves of gas in Kansas Hugoton field

The virgin reserves in that portion of the Hugoton gas field situated in the State of Kansas were approximately 15 trillion cubic feet. (T. 505.)

That is measured on a pressure base of 14.65 pounds. (T. 506.)

I am talking about the Kansas portion of the Hugoton Field when I am talking about the Hugoton Field in my testimony.

In figuring my reserves I used an abandonment pressure of twenty-five pounds at the wellhead. (T. 506.)

There are approximately 1 million acres that will produce about 10 million cubic feet per acre.

The remaining 1,600,000 acres will probably produce a total of about 5 trillion cubic feet, so the total estimate is 15 trillion cubic feet original reserve. (T. 507.)

Approximately 13 trillion cubic feet remains in the Kansas portion of the Hugoton Field, measured on a pressure base of 14.65 pounds. (T. 507.)

As to the present rate of exploitation, during the year ending September 1, 1952, the gas produced from the Kansas portion of the Hugoton Field amounted to 336,566,000 cubic feet.

This was measured on a 16.4 pound pressure base, and if it were calculated on a pressure base of 14.65 pounds it amounts to 376,770,000 cubic feet. (T. 508.)

Q. Based on the most recent deliverability test what is [fol. 310] the total current deliverability of the presently completed wells in the field?

A. The deliverability test taken in the summer of 1952 and shown in the September proration report indicate that the Kansas portion of the Hugoton Field has a deliverability of 4,044,360 Mcf per day on a 16.4 pound pressure base from the 2,785 wells. (T. 508.)

Development of marginal acreage will increase available production

As to the effect on available production or supply of gas under present proration restrictions if the undeveloped proven acreage were drilled up, the field is now approximately two-thirds developed, and drilling the one-third of the proven acreage, the average production, based on a continuation of the present average allowable per well, would increase the available production 50 percent.

However, most of the undeveloped acreage is near the edges of the field and the deliverability of these edge wells will be smaller than average.

For this reason, it is my opinion, a complete development of the field would increase the available production approximafely 25 percent. (T. 509.)

The demand for gas during August, 1952, was 23,770,670 Mcf. (T. 509.)

Factors which influence decisions to drill

As to what factors influence decisions to drill on undeveloped acreage in a common source of supply, if the acreage is definitely proven and in a common source of supply, and the supply is being currently produced, then the principal factor is to drill the acreage and prevent drainage of the gas to other wells.

Other factors are continued payment of delay rental and possible cancellation of lease by reason of failure to drill. (T. 509.)

[fol. 311] It is largely a matter of economics, but if the market demand is there and the price is satisfactory and the reserves are there, and the income is sufficient to give a satisfactory return to the investment, why, then, the man will drill the well.

In the past owners of undeveloped proven acreage have not, in general, been able to await favorable demand conditions for the gas underlying their leases.

The longer the delay, why, the greater the amount of drainage. The demand conditions were unfavorable until about 1948, and they have improved to a large extent since that time. (T. 510.)

At to what influence the price of gas has on the decision to drill, in a common source of supply which is being produced, if the price of gas is sufficient to amortize the investment and give a satisfactory return, even a small return, it is better to develop than allow the gas to escape by drainage to the neighboring producing leases.

In the past. price has been balanced against drainage and loss of leases, and a decision was made after weighing those factors. (T. 511.)

Effect of 1949 minimum attribution order on Kansas Hugoton field

Q. On March 1, 1949, this Commission entered its order providing that there should be attributed to all gas taken from the Kansas-Hugoton Field the sum of not less than eight cents per Mcf measured on a pressure basis of 16.4. Now, will you state what changes have occurred in the field since the entry of this order?

A. Well, first, there has been a marked increase in the cost of development. Second, there has been a marked increase in a number of wells completed in the Kansas-Hugoton Field. (T. 511.)

There has been a marked increase in the demand for space heating and industrial uses. There has been a marked development of marginal acreage.

[fol. 312] There has been a marked increase in the price that transmission companies are willing to pay for gas. If today one had a million cubic feet a day to sell, they would have no trouble in obtaining fifteen cents per Mcf at a pressure base of 16.4 for that from the Kansas portion of the Hugoton Field. (T. 512.)

Cities Service has completed another line in the reserves of the Kansas portion of the Hugoton Field. Many of the transmission companies and takers of gas have voluntarily increased the royalty payments to the land owner. (T. 512.)

There are, however, so many inequities of the prices paid to the different royalty owners, in other words, the price paid for gas varies considerably from lease to lease, and from buyer to buyer.

There has been a marked increase in the price of gas at the wellhead in all other parts of the United States. I mean in Ohio, West Virginia, Oklahoma, the Gulf Coast, and practically all other gas producing states.

There has been a marked increase in the price paid for gas in small and relatively unimportant fields. (T. 513.)

There has been much less gas from the Kansas portion of the Hugoton Field used in the manufacture of carbon black. (T. 515.)

In my opinion that is by reason of the minimum price of eight cents. (T. 515.)

In addition the contracts which were offered to the producers are no longer life of lease contracts at a fixed price. (T. 515.)

Wellhead supply greatly exceeds demand

The current demand for gas during the month of September, 1952, was 23,770,670 Mcf. (T. 515.)

Q. Will you state again what was the current available production of gas for the same period for the same area [fol. 313] over the same period of time based upon deliverability tests?

A. The total deliverability for the month of December was about 125 billion cubic feet. (T. 516.)

In my opinion these figures as to current production and present deliverability of wells together with the large reserves of undeveloped leases in the Hugoton Field show the existence of a supply greatly in excess of the present demand. (T. 516.)

Difficulty in transportation of natural gas

As to the physical properties of gas which affected its amenability to transportation, gas is volatile and it escapes in the air unless it is stored under pressure.

Gas may be transported commercially by means of pipe lines. (T. 516.)

Gas is not subject to importation to the United States from foreign countries, other than Canada or Mexico.

Gas cannot be effectively stored in the field or on the surface.

This difficulty in transporting has the effect upon demand for gas in the field in that it limits the outlets of the field to the amount that the pipe-line companies and purchasers are willing to take. (T. 517.)

Relative bargaining positions of producers and purchasers of gas

Approximately six pipe lines take gas in substantial quantities from the Kansas portion of the field. (T. 526.)

Q. How can an owner who has drilled into a common source of supply which is being produced by others market his gas?

A. The only way is by obtaining a connection with a pipe line outlet that is presently drawing its supply of gas from the common source of supply.

Q. In negotiating with the owners of a pipe line will you state the relative bargaining positions of the owners of the pipe line, of the well and the pipe line?

[fol. 314] A. The owner of the well must obtain a market for his gas under such circumstances or be drained because of the abundance of supply.

In the case of the Hugoton Field the pipe line companies have a sufficient supply of gas to take care of their current demands either from their own developed acreage or dedications, not to mention their undeveloped reserves.

Consequently, the bargaining position of the land owners or the owners of the wells is very weak and the bargaining position of the pipe line companies is relatively strong. (T. 527.)

Aside from the cost and huge initial investment required to lay a pipe line, there are other factors which make it impractical to build any substantial number of competing lines.

The main factor is the reserves which are available for the respective lines.

These reserves are acquired by obtaining proven acreage for the particular pipe line or by dedications of acreage.

Under present regulations these reserves are necessary before a line can be constructed. (T. 530.)

They are necessary, first, for financial reasons. A line should have sufficient reserves to amortize the cost of the line in a reasonable length of time and secure a profit for the pipe line company.

Secondly, the Federal Power Commission has certain rules and regulations which must be followed in order to obtain a Certificate of Convenience and Necessity for construction of the pipe line. The Federal Power Commission requires a certain amount of reserves.

Another limiting factor in the construction of a pipe line is the shortage of pipe.

Almost all of the reserves of the Hugoton Field have already been dedicated under existing contracts. (T. 531.)

Q. In your opinion will any substantial number of pipe [fol. 315] lines be able to obtain enough reserves to go ahead with construction?

A. The undedicated reserves are scattered. It would be more economical and practical to connect these reserves

to presently existing pipe lines and allow them to increase their capacity by looping their existing line.

It probably would not be economically feasible for a new line to extend its gathering system into undedicated areas of widely scattered reserves. (T. 531.)

Abandonment procedures and price of gas

As to present abandonment procedures, a gas field is produced down to a point where the production of gas is such that it is no longer profitable to operate and pay operating expense.

As to when a well reaches this point, it is dependent upon the ability of the well to produce and the bottom hole pressure.

The bottom hole pressure can be lowered by pulling what is termed more vacuum on the field, but the more vacuum that is pulled on a gas field the higher (T. 532) the costs, because it is necessary to install additional compressor capacity to pull a valve.

Q. What is the controlling factor in determining at what pressure a well will be abandoned?

A. The price of gas.

Effect of increased price on ultimate recovery

Q. What is the effect on the amount of ultimate recovery of this irreplaceable natural resource of a higher price for gas in the field?

Q. It will increase the ultimate gas recovery. (T. 533.)

Prices in other areas

I am familiar in general with the prices of gas in other areas. As to how the prices of gas in other areas compare [fol. 316] with the price of gas in the eastern area, around Pittsburgh, at the wellhead, is approximately 30 cents. (T. 533.)

Price-fixing by pipe-line companies

Land owners in the Hugoton Field do not receive uniform prices for their gas. It all comes from a common

source of supply. This difference cannot be explained primarily by differences in the cost of producing gas. (T. 533.)

There are some differences in the quality of gas, but the differences in price bear no rational relationship to these differences in quality.

These differences in price cannot be explained on the basis of differences in deliverability. They cannot be explained on the differences in location of wells. They cannot be explained on the basis of differences in wellhead pressure. (T. 534.)

Q. How, then, do you explain differing prices for gas of generally the same quality in the same general location and locality produced under the same pressures?

A. These prices were fixed by the purchasing company, and based upon their contracts, the price that they paid bore little relationship to the value of the gas. (T. 534.)

I have represented both purchasers and sellers, bargainers at the bargaining table with reference to the purchase and sale of gas. (T. 356.)

Cost of manufactured, synthetic gas

Based upon the present prices of oil and coal, manufactured synthetic gas would cost in excess of $1 on the equivalent of a thousand cubic feet of natural gas from the Hugoton Field. (T. 537.)

That would be around Pittsburgh or Detroit.

This substitute is used in the eastern areas of the United States and in large industrial areas of the country. (T. 538.)

[fol. 317] Value of wellhead gas in Kansas Hugoton field

Q. Mr. Wanenmacher, I will ask you to state what you consider the value of natural gas at the wellhead in the Kansas portion of the Hugoton Field.

A. It would range between 15 and 21 cents per thousand cubic feet of gas. (T. 551.)

In this price I was getting 16.4 pounds. (T. 552.)

Cost of gathering gas under Hugoton Production Company contract

I am familiar with the holdings of the Hugoton Production Company dedicated to Kansas Power and Light under its contract dated October 12, 1948.

I am familiar with the area served and the location of the gathering system, with the location of their wells and the common point of delivery, and with the volume of gas now being produced from these wells and delivered to Kansas Power and Light.

I have calculated the cost of the gathering of this gas, including the amortization of the line.

The cost is from three-quarters to one cent per Mcf.

Price and the development of marginal acreage

As to whether I have made an analysis and study of the development of marginal wells or fringe area wells based upon a price of 14 cents per Mcf measured on a pressure base of 16.4 p. s. i. a. as compared to a price of 8 cents at the same pressure base, I have made a calculation for wells of low deliverability which I consider marginal wells. (T. 554.)

Most of the wells with low deliverability are on the fringe of the field.

I have calculated on the basis of 8-cent gas the amount sold at the wells during the year 1951 for wells of these deliverabilities, and making deduction for the land owner's royalty, interest at five percent on a development cost of [fol. 318] $30,000, and an operating cost of $300 per year, and I find that on 8-cent gas a well with a deliverability of 500 Mcf requires 18 years to repay the $30,000. (T. 554.)

This is for the average price and not a reduced price for low b. t. u. content.

It might be decreased five percent for low b. t. u. and the time extended more than that amount. Wells of deliverabilities of 600 Mcf require 11 and one-half years to return the development expense, and wells with deliverability of 700 Mcf, require 9 years to return the development expense.

If the price of gas were changed to 14 cents, the well with a deliverability of 500 Mcf, based upon the same figures used for the 8 cent gas for development cost, operating expense, and interest, would take six and a half years to pay out, it would require 5.1 years to pay out a well with a deliverability of 600 Mcf, and it would require three and one-half years to pay out the cost of a well with a deliverability of 700 Mcf.

Now, I have used the pay-out measurement because as a rule that is what curtails a prospective developer's decision in deciding whether he would go ahead and develop a leasehold or not in the Hugoton Field. (T. 555.)

On the September proration schedule there were 354 wells in the Hugoton Field, or 12.7 percent of the total, which had deliverabilities of 700 Mcf or less, there were 103 of these which had deliverabilities ranging from 601 to 700, 119 which had deliverabilities ranging from 501 to 600 Mcf, and 132 wells which had deliverabilities of 500 Mcf or less.

Most of these wells are at the margins of the field, and the anticipated low deliverabilities in the most of the undeveloped portion is the reason why these portions have not been developed today.

I consider a pay-out of 8 years reasonable. I don't think anybody would put their money in, unless it was some [fol. 319] abnormal situation. The ordinary investor would not. (T. 556.)

I have calculated the production of gas for the Kansas portion of the Hugoton Field through the years, for the years 1948, '49, and 1950 and '51. (T. 559.)

The production of the total Hugoton Field measured on a 14.65 pound pressure base was, for the year 1948, 356.1 billion; for the year 1949, 444.3 billion; for the year 1950, 576.2 billion; and for the year 1951, 698.4 billion; a total for these 4 years of 2,075 billion. (T. 561.)

Mr. Ransom, in his Exhibit in the October, 1948, price hearing, showed or predicted for the year 1948, 359.6 billion; for the year 1949, 459.2 billion; for the year 1950, 621.9 billion. (T. 563.)

Failure to drill marginal wells cuts down ultimate production.

Q. Would the failure to drill the wells along the marginal or on the marginal areas of the field cut down the ultimate production from the field?

A. It would because the formations are tighter in these marginal wells and they do not drain nearly as readily as the formation in the better part of the field, and considerable gas would be left because it would not be drained by other wells. (T. 564.)

Cross examination.

By Mr. Rolston:

More marginal edge wells needed to efficiently drain field

The deliverability of edge wells is smaller. Less than one out of a hundred is a pretty good sized well.

If this conservation statute and orders only apply to developed acreage and you have 2,800 wells drilled in the field, those 2,800 wells would not completely drain that reservoir in the course of time. (T. 1078.)

It would require more wells to efficiently drain this acreage. (T. 1078.)

In order to drain, the gas has to build up a pressure [fol. 320] differential, and the tighter the formation the more pressure differential is necessary to move the gas.

Now, the pressure differential depends upon the rate of drainage, and if you had an infinite time, a large part of the gas would be drained, but within the next 20 or 30 years, which we have to limit ourselves to, it would not drain all this gas, and because the edge leases have the tighter formations a substantial part of that gas would not be drained by these wells. (T. 1079.)

A small portion of the gas along this edge acreage would in the course of time be drained by wells that are producing in other parts of the field. (T. 1080.)

Price too low to justify complete development

In my opinion the price, which I consider a part of the demand condition, is still too low to justify developing all of the field. (T. 1083.)

Q. Would it be likely in your opinion that additional wells would be drilled in the Kansas Hugoton Field unless there was a market available to the producers in the field for more gas?

A. Yes, sir, I think more wells would be drilled, even if there were no increase in the amount of gas which would be taken out.

Q. If purchases by the major pipe lines in the Kansas Hugoton Field were cut back now by, say, one-half for any reason would more wells be drilled by producers in the field at this time?

A. Some of the undrilled locations in the better parts of the field, I believe, would be drilled, but none of the marginal leases would be drilled. (T. 1083A.)

Edge wells have less permeability because the initial productions and deliverabilities are smaller. (T. 1083A.)

[fol. 321] Relative bargaining position of buyers and sellers of gas

I base my testimony that the bargaining position of the land owners or the owners of the well is very weak and the bargaining position of the pipe line companies is relatively strong upon my experience, that is, that there are only a few people that buy the gas, they offer to pay so much, you can take it or leave it. (T. 1086.)

Q. Now what position does that put the seller in with respect to bargaining power?

A. Well, he still has people that will buy the gas from him and he takes what they will give him.

Now, if these people compete with each other, and the tendency in the past two or three years has been for competition among the purchasers, he will receive a larger price.

Q. Isn't the seller of gas in a position that he doesn't have to sell his gas, if he doesn't want to?

A. Well, most of the gas is from wells which are on

leases which are already dedicated. That gas is pledged to a certain company. If that company pays eight cents, that's what you get for the gas. (T. 1088.)

Much of the gas, the new gas, the new wells that have been drilled, have been drilled on leases which are already pledged, and that gas has to go to the company to whom it is pledged, and it is paid for at the price that that company is willing to pay.

There is very little acreage in there that is not pledged. I think less than ten percent of the undeveloped acreage is unpledged one way or another. (T. 1088.)

Marginal well study

My study as to development of marginal wells assumes that these marginal wells will be allowed the same amount and have a market for the same amount of gas as the market was in the year 1951, and the market which I as- [fol. 322] sumed was based upon the deliverability on a ratio of production of deliverability in 1951.

If the field were not expanded and the market were not expanded, demand did not increase, then these new wells would have to share with the other wells in the field and it would take still a longer pay-out. (T. 1090.)

Effect of price on ultimate recovery

Q. What in your judgment would be the pressure at which the field would be abandoned?

A. That will depend on the price of gas. (T. 1091.)

In order to estimate reserves we estimated an abandonment pressure of 25 pounds. However, if the price of gas is high, the abandonment pressure may be zero at the wellhead.

When the price is increased these marginal wells can be drilled if it is done within the next few years. If it isn't done, a large portion of this gas will be drained, and it won't be worthwhile drilling it then, but it won't all be drained.

The failure to drill the wells along the marginal or on the marginal areas of the field would cut down the ultimate production from the field. (T. 1092.)

Eight years is a reasonable time to pay out a gas well. An oil well, an operator would want a quicker pay-out. (T. 1093.)

Using the same deliverability or ratio of deliverability on annual production that prevailed in 1951 and based upon 8-cent gas and the other figures which we used, a well with a deliverability of 500 Mcf per day would require about 18 years to get the money back with interest at 5 percent per year.

On the 14-cent figure it would take about 6½ years. (T. 1094.)

Q. Do you have the figures covering the production immediately before and immediately after the entry of the March, 1949, conservation order?

[fol. 323] A. I have it for the year 1948, production on a 16.4 pound base was 166,039,208 Mcf. The numbers of wells at the end of 1948 was 1,241. During the year 1951 the production was 331,422,982 Mcf, and the number of wells was around 2,700, so the number of wells more than doubled and the production has exactly doubled. (T. 1098.)

For the year 1949, 221,780,053 Mcf, and the number of wells 1,797 at the end of the year.

For the year 1950, 286,528,447 Mcf and 2,234 wells. (T. 1098.)

The figures on industrial use in Kansas are in millions of cubic feet at a 16.4 base. The industrial uses in 1948 were 101.3; in 1949 106.0; 1950 112.8; and in 1951 117.0. So there has been a gradual increase. (T. 1101.)

Gulf Coast contracts

At the fields along the Gulf Coast the new contracts are being signed up anywhere from 15 to 20 cents. I saw one recently in the Erath Field in Louisiana, which would be a 20-cent price on a 15.025 base. (T. 1102.)

In Texas, a large reserve near Houston turned down the price of 15 cents for its gas. (T. 1102.)

The prices which I have seen and know of in the Permian Basin are around six and seven cents, but a lot of people expect higher prices later on on the basis of calculations on it. (T. 1103.)

Q. Wasn't the reason for these increases in prices due to

the tremendously increased demand for natural gas particularly on the east coast?

A. There are a lot of natural gas lines that are being contemplated and financed. Some of them are promoted, and in order to build these lines and finance them and obtain permission from the Federal Power Commission an extremely long life reserve is necessary, in fact, they require a 20-year reserve, and in order to assure some of these re- [fol. 324] serves which will keep the pipe line going 20 years, these companies have been competing very intensely with each other and raise the price. (T. 1106.)

Redirect examination

By Mr. Eleeson:

Decrease in use of gas for carbon black after 1949 conservation order

Q. Mr. Wanenmacher, I want to call your attention to the fact that the eight-cent price order became effective March 1, 1949, do you recall that?

A. Yes, sir.

Q. Has there been any change in the pattern of use to which gas has been put to since the inauguration of that order and have you any records which will show any change in the pattern of use?

A. This very same record I quoted from.

Q. I want you to state from the record what record you are quoting from?

A. This is a publication entitled "Oil and Gas Development in Kansas During 1951."

Q. And by whom?

A. The State Geological Survey of Kansas, Bulletin No. 97.

Q. All right, now I want you to state from that publication whether you can state the amount of millions of thousand cubic feet at 16.4 that was used and consumed for carbon black for the year 1948?

A. I can.

Q. Will you state that for the record?

A. 20.8 million.

Q. Now will you state how many millions of thousands of cubic feet at 16.4 were consumed for carbon black in Kansas for the year 1951?

A. 15.5. (T. 1115.)

My attention has been called to the fact that United Carbon has recently made a contract with Colorado Inter- [fol. 325] state for a delivery of so much gas on a 13-cent wellhead price.

Prior to 1948 that same gas was burned for carbon black by that company. (T. 1115.)

Increase in domestic use after wellhead attribution order

The amount of gas consumed in Kansas during the year 1948 for domestic use was 66.1 million cubic feet.

The comparable figure during the year 1951 was 65.0 million.

The increase percentagewise has been greater for domestic use since the entry of the 1949 order. (T. 1116.)

The amount of gas exported from the State of Kansas but produced in Kansas in 1948 was 165.4 million.

The same comparable figure for the year 1951 as to gas exported from the state of gas produced within the state was 188.9 million.

During the year 1948, 113.4 million cubic feet was imported from out of the state. (T. 1117.)

The comparable figure as to gas imported into the state for the year 1951 was 42.7 million.

There has been a large percentage decrease of the gas imported into the state of Kansas, 62 percent decrease.

The percentage of increase of the gas exported from the state as between 1948 prior to the entry of the March 1, 1949, order, and the present was 12 percent. (T. 1118.)

Q. Do you know what has happened to the carbon black plants in Guymon, Oklahoma?

A. Shut down, moved out. (T. 1119.)

Shutdown at carbon black plants

Mr. Fleeson: If Your Honor please, I would like at this time to ask the Commission, pursuant to Rule 82-179, to take judicial notice of the fact that there was filed with

this Commission under date of December 4, 1952, an application by the Columbian Fuel Corporation of New York, [fol. 326] in which application it states that the applicant is a producer of natural gas in the Hugoton Gas Field of Kansas, particularly in that portion of the field located in Haskell County, Kansas, and that certain wells therein to the number of 61 have been supplied the requirements of carbon black manufacturing plants of Columbia Carbon Company and the Peerless Carbon Black Company, both of which plants are located near Hickock, in Grant County, Kansas; that the applicant in the application sets out and shows to the Commission, and I quote "that as of the date of November 18, 1949, the applicant entered into a gas sales and purchase agreement with Cities Service Gas Company whereby the gas purchased from the wells herein mentioned and described above the volume required by the two carbon plants would be sold to Cities Service Gas Company and delivered into the purchaser's pipe line at a point in Grant County, Kansas, and that it was contemplated by said agreement that the volume of gas to be delivered thereunder should increase from time to time as the carbon black plant operations might be curtailed or as their requirements might decrease or ultimately cease entirely." (T. 1122.)

The application further sets out, and I quote, "that applicant's market for gas from the wells hereinbefore described to said carbon black plants has now been completely terminated and the entire volume of gas now being produced and hereafter to be produced from said wells will be sold and delivered to Cities Service Gas Company in accordance with the terms and provisions of the agreement as of November 18, 1949," and it prays that permission will be granted by this Corporation for an order ratifying and approving the change of market. (T. 1122.)

* * * * * * *

Commissioner Stiles: Well, as to what bearing it may have on this, I can't tell at this time, but under the state- [fol. 327] ment made the other day in reference to the same rule that counsel quoted, the Commission will take notice of the fact that an application as described has been filed. (T. 1123.)

Mr. Fleeson: In accordance with the same rule, I desire the Commission to take judicial notice of Docket No. 43,552-C, in which an order has heretofore been made by the Commission in reference to the United Producing Company of Charleston, West Virginia, to change a market. (T. 1124.)

* * * * * * * *

Commissioner Stiles: So far as the Commission is to take notice of its files and records, insofar as the application and the order in Docket No. 43,552-C is concerned, the request is granted, and the Commission will take such notice. (T. 1125.)

Witness is excused. (T. 1127.)

Exhibit, petitioners' number 26, received in evidence. (T. 503.) (A. Tr. Ct. 65-67, C. A. Tr. Ct. 158-178.)

Testimony of OLIVER S. BROWN.

Direct examination.

By Mr. Stucky:

(October 23, 1952)

Nature of applicant, Southwest Kansas Royalty Owners' Association

My name is Oliver S. Brown, of Liberal, Kansas. I am one of the individual petitioners in this proceeding and also president of the Southwest Kansas Royalty Owners Association. The Association has something over 1400 members. (Tr. 565.)

All of the members of the Southwest Kansas Royalty Owners Association are persons owning minerals in place or royalty interests in the Kansas-Hugoton Field consisting of 9 counties in southwest Kansas.

The governing body of the association is the Board of Directors.

There are eighteen directors, one for each county which [fol. 328] is elected at a local county organization. The other directors are elected at large. At the present time it

happens there is one director at large for each of the 9 counties. (T. 566.)

Range of landowners royalty paid under gas leases in Hugoton field

Payments are not uniform as to the wellhead royalty price for gas.

The range of wellhead prices reflected in these payments is from 8 cents up to 13.2. The Texas Company pays 8.6; Pamona, 8.2; United Producing, 8 cents; Hugoton Plains pays 9 and a quarter; Northern Natural pays 11 cents; American Gas Company pays 10 cents; Hugoton Production Company pays 11.007 cents; the Panhandle Eastern pays 9 cents and 13.2 on a number of wells in the Hugoton Field; and Stanolind pays between 11 and 12 cents on some 400 of its leases. (T. 567.)

I am familiar with the royalty payments made by the Hugoton Production Company since the effective date of the previous 8-cent order of the Commission, March 1, 1949. (T. 567.)

After March of 1949 payments were made on the basis of 8 cents. In March of 1951 the Hugoton Company agreed with the Southwest Kansas Royalty Owners Association to account and to pay to all of its royalty owners for gas taken from the Hugoton Field royalty based on 11.007 cents per Mcf on a pressure measurement of 16.4. That company has been paying such a price since then. The price is retroactive to January 1, 1951. (T. 568.)

If the value were increased from 8 cents to 14 cents the royalty owner would get a difference of three quarters of a cent. (T. 568.)

Royalty payments were made by the Northern Natural Company on the basis of 5 cents until around August of 1949, thereafter they were made on the basis of 6 cents [fol. 329] until about July 1950, and thereafter on the basis of 8 cents. Of course, the difference between these payments and the 8-cent prices after March, 1949, were impounded and eventually paid. (T. 569.)

The Northern Company is now paying 11 cents. That 11 cents is not a regulated price. (T. 570.)

Percentagewise this increase in market value payments for gas at the wellhead since March 1, 1949, by Northern Company is 125 percent. (T. 570.)

The Stanolind Company paid a royalty of 5 cents until the order of the 8 cent minimum at the wellhead became effective, with the exception of a 6 and a half cent offer to its lease holders, made in the fall of '48, to those who would sign an amendment to the lease agreement, guaranteed for a period of 10 year.

A small percent signed. But on the remainder 5 cents was paid until a second amendment was offered to the owners of a price of 8.4 cents Mcf at the wellhead. (T. 571.)

That was effective from June 23, 1950, until June 23, 1961, and thereafter at a price to be negotiated at not less than 12 cents.

In addition there was to be a payment made for liquids extracted and sold at Standolind gasoline plant located in Section five twenty-nine thirty-eight, Grant County, Kansas, upon the basis of the gross value of such liquid saved and sold each month in accordance with the average price per gallon received of all products, 8 percent of the proceeds paid to the lease.

For example, we will say that the price per gallon might range from 6 to 7 cents, 60 percent of that proceeds was paid to the lease. I have in my hand a copy of this second contract here, also along with the copy of this stipulation is attached a letter from J. S. McIntyre of Stanolind Oil and Gas Company of Oklahoma City, date December [fol. 330] 4, 1950, and addressed to the Southwest Royalty Owners Association. (T. 572.)

I call attention to the second paragraph of this letter, and I quote: "Effective June 23, 1950, Stanolind Oil and Gas Company has negotiated a contract with the Cities Service Gas Company by the terms of which the gas is sold at the wellhead for a price of 8.4 cents per Mcf and payment will be made to the royalty owners on the basis of that price.

"However, in what is known as the 'A' area the royalty owners, effective June 23, 1950, will receive an additional payment for plant products.

"This price is plainly indicated in the stipulation being forwarded to the various royalty owners, a copy of which is attached hereto. It is estimated that the 8.4 cent wellhead price, plus the plant products, will equal an average price of approximately 11 cents per Mcf." (T. 572.)

That price has been paid, regardless of whether the stipulation was signed or not.

I have some representative royalty payments in certain months for the last couple of years from this company.

I have here an itemized statement of the oil and gas purchased or sold on 9 wells belonging to Stanolind, located in Stanton County, and this is a complete record from the time the wells were put on the line until the present date, and will show the various prices mentioned, such as 5, 8.4, and 11 cents, and here before me for this month I have here the August run of the 9 wells and the average paid was 11.264 Mcf. (T. 573.)

Percentagewise the difference between the voluntary payments made at the time of the previous hearing and the voluntary payments now made by Stanolind is in excess of 120. (T. 573.)

The 13.2 wellhead figure paid by Panhandle Eastern is on a 16.4 pressure basis of measurement, and is on an [fol. 331] acreage west of Liberal in Seward County. (T. 574.)

Panhandle Eastern began paying a royalty of 13.2 at the wellhead in November of 1950, and this price has been paid continuously each month and is being paid at this time, and I have here before me the monthly statements of the various owners of remittance.

Those statements to the owners show a basis of 12 cents on a 14.9 measurement, but taken on the amount of the proration order into the price received makes the figure exactly 13.2 on a 16.4 measurement.

Percentagewise, the increase in voluntary payments made by Panhandle from the first price to this 13.2 figure, is 80 percent. (T. 574.)

Panhandle is paying 9 cents on the majority of wells.

This 80 percent increase is on the 9-cent wells. It would be more than double on the other wells.

The only price Hugoton Plains have ever paid in the field is 9 and one-fourth cents, and this goes back into the early part of the year 1950. (T. 575.)

There are two sets of figures on Republic Natural. Under their so-called "A" contract, which Republic has with Northern, in March of 1949 Northern paid Republic 6 cents, and Republic paid its own royalty owners 5 cents, making a charge of 1 cent on its "A" string of wells.

This contract with Northern was re-negotiated to 10 cents, and Republic began paying 8 and a half cents in July 1951, making a charge of 1 and one-half cents for gathering. That 8 and a half cent payment is the current payment which represents a three and a half cent increase since March, of 1949.

Now, with respect to the "B" string of wells, Republic received 5 and a half cents from Northern, and also some benefits by reason of hydrocarbons, and in March of 1949 was paying 5 cents to its landowners as royalty; and the [fol. 332] only increase since that time has been the 8 cents required by the Commissioner's order. (T. 576.)

There are various prices for Columbian Fuel. For example, I have here that I can refer direct to an example where a check for June of 1952 was received on the basis of 9.5770 and one for July of 1952 for 10 cents, also I have one for November of '51 as low as 8.0507. This covers the same well.

On approximately 760 wells in the field royalty owners are paid 11 cents or more on a 16.4 pressure basis of measurement, which is over 25 percent of the total.

Approximately, and this is a conservative figure, 75 percent of the total wells in the field are paying more than 8 cents. (T. 577.)

Landowners never consulted regarding payments made

Q. Do the lessees consult the landowners in the field on the price basis to be paid for royalty in the field?

A. No. If increases are made, they are always considered voluntary, landowners are never consulted. Royalty payments are made on a unilateral basis by pipe line producers. (T. 578.)

By Chairman Robertson:

Q. Are these royalty payments made in accordance with the contract, Mr. Brown?

A. They have been voluntary payments made not in accordance with the contract in certain cases. It has been a voluntary raise by the pipe line company to the land owner, and they merely announced that they would receive a higher check. In other words, maybe from 8 cents they decided suddenly to pay the land owner 10. (T. 579.) The lease provides one eighth of the market value at the wellhead. (T. 579.)

Differing royalty payments made on adjoining wells

By Mr. Stucky:

There are situations in which different royalty payments are made on adjoining wells.

Here is an example in which Western Natural pays 8 [fol. 333] cents royalty on the southwest quarter, that is, in Section twenty-five twenty-seven thirty-eight, and Northern Natural pays 11 cents on the adjoining section nineteen thirty-seven, and also 11 cents on section thirty-one twenty-seven thirty-seven, which is in Grant County. (T. 580.)

I know another example which is similar. That is of Columbia Fuel paying in a price ranging from 8 to 10 cents on their wells in east Grant County, here Columbia pays 8 cents royalty on section seventeen twenty-eight thirty-five, and pays 8-cent royalty on twenty-eight thirty-five one mile south. (T. 580.)

Exhibit No. 27 is a map of Grant County, Kansas, showing the range of wellhead prices paid at the wellhead in August of 1952, which I have testified in part to.

This happens to be one county where I have received the checks myself. It shows the wide range there. It shows the comparison there in the northwest corner in three sections where Western pays 8 cents and Northern pays 11 cents on the two adjoining sections.

The east side I referred to there are mostly wells belonging to the Columbia Fuel and Carbon, starting at 8 cents and 10 and back to 8. (T. 585.)

They pay 8 cents on some and 10 cents on some.

These are taken from actual checks received by me for the month of August, 8 and 10. And United Carbon down there by Ryus, 8 cents. (T. 586.)

There are a few wells just south and west of Ulysses. Those west there, two sections there shaded, two full sections, we've got 11 cents plus that Stanolind is paying, and we have 8 cents that is being paid by Western.

The 11.007 is the Hugoton Production on two wells just to the east of it. (T. 586.)

[fol. 334] Differing royalty payments made on same wells

As to the well down in the south end of the county there, that situation is where the land owner receives a different royalty payment on the same well. Gas coming out of the same hole they get different royalty payments.

That well there to the south in Section 25, that's No. 125 owned jointly by Panhandle and Sartor Oil and Gas, Panhandle makes the distribution of the royalty paying on the basis of 9 cents to its lessors and paying 8.323196 to the Sartor lessors, that is out of the same well. (T. 587.)

All of these prices are on the same pressure basis of measurement.

I have another example of where the land owner receives two prices. It is the well known as Lee No. 1 located in section twenty-three twenty-six thirty-six, Kearny County, Kansas. Northern Natural makes the royalty payments to Columbia Fuel Corporation, its partner on the well. On Northern's part of the gas its payment is 11 cents on Columbia's part, and Northern pays the land owner 8 cents. (T. 588.)

Exhibit No. 27 was received in evidence. (T. 588.)

Exhibit No. 28 is a map of Seward County showing 5 gas wells west of Liberal, and a comparison therein of prices. On the middle three there the price is 8 cents, and on the one to the north it is 13.2, and the one to the south in section ten is 13.2, and these prices are paid by Panhandle Eastern. (T. 588.)

Exhibit No. 28 was received in evidence. (T. 589.)

By Commissioner Stiles:

Q. Mr. Brown, will you be prepared later, perhaps at the time of cross-examination; to give us the dates of the leases on these several tracts shown on these several exhibits and also the date the development commenced?

A. Yes, I certainly can. (T. 590.)

[fol. 335] Exhibit No. 29

By Mr. Stucky:

I have prepared the data requested by Commissioner Stiles in exhibit form. That was the dates of the leases and the dates of the development commenced on the leases mentioned in Exhibits 27 and 28. (T. 1128.)

Exhibit 29 contains the information requested by Commissioner Stiles. There is no pattern of relationship between the prices and the dates of the leases or the dates production commenced. (T. 1129.)

Petitioner's Exhibit 29 was received in evidence. (T. 1130.)

Cross examination.

By Mr. Conway:

Number of royalty owners in Kansas Hugoton field

To the best of my knowledge in approximate numbers, there are 15,000 persons owning royalty or mineral interests in the Kansas Hugoton Field. (T. 1132.)

I recited what the various companies paid in royalty in the Hugoton Field. The purpose was to show the discrimination in the field. (T. 1133.)

Royalty payments of Stanolind reflect value of hydrocarbons later extracted

Stanolind pay between 11 and 12 cents on some of its leases, some 400 of its leases. (T. 1138.)

All of those leases are owned by Stanolind and originally developed. They are the operator, the producer, and the seller of the gas. (T. 1139.)

They pay the royalty owner 1/8 of the 8.4 on the production taken from the well plus the prorata of the hydrocarbons, the liquids, taken, which amounts to an average of about 3 cents, making a total of 11 plus received.

They give some credits to the royalty owner for extraction of hydrocarbons. 8.4 plus the hydrocarbon is about 3 cents, and to determine the amount of the hydrocarbons there statement of 8.4, you divide that way and [fol. 336] break it down to arrive at the actual price they figure the hydrocarbons are worth to the royalty owner. (T. 1140.)

On that pa-ticular royalty we are discussing, including the extraction, the land owner is getting 1/8 of 11 cents plus or roughly 1.4 cents for each Mcf of gas. (T. 1142.)

Varying royalty payments

Better than approximately 25 percent of the wells in the field were paying 11 cents or more.

Approximately 25 percent are still paying 8 cents at the wells in the field. 75 percent are paying above 8 cents. (T. 1151.)

The 25 percent is paying 11 or better, 50 percent is above 8 and below 11, and 25 percent is 8 cents. (T. 1152.)

The only thing I know there is nothing in the pattern of the dates of the leases or at the time the wells were drilled to indicate why one should be eight and the other ten. (T. 1157.)

Q. Do you know why this same company is paying eight cents and ten cents in the same township?

A. I do not know why, unless they are trying to wean the carbon black plant.

Q. Are there any peculiarities of the gas different from one well than the other?

A. I rather doubt it. (T. 1158.)

The wide discrimination of prices paid at the wellhead in the field leads to economic waste on the part of the producer. (T. 1165.)

Q. . . . You are not objecting to the royalty you are getting on the land, are you?

A. Yes, I am objecting. I am not getting a fair market value. (T. 1170.)

Cross examination.

By Mr. Adams:

Referring to Exhibit 29, the date of those royalty prices is August of 1952. (T. 1175.)

I think that the withdrawal will follow in an orderly [fol. 337] manner, until the field is entirely exhausted and meet all the principles of gas conservation, if a minimum price is set in the field.

I favor an orderly increase of production. (T. 1178.)

I think that the dedicated acreage or the leased acreage of the field should be fully and evenly developed, meaning that I don't think that one farmer or one royalty owner should own a section here with a well on it and the other royalty owner set here with a section with no well on it. (T. 1179.)

Free market price establishes fair value

Q. Mr. Brown, when you fixed a price of not less than 14 cents in your petition, what was your guiding, thinking, on that subject?

A. The prices being paid in the field, naturally some (T. 1182) of the higher prices would guide your thinking as to what a fair market price would be if it was a free and open market. (T. 1183.)

From our findings made by our engineers we find that 14 cents is certainly a reasonable minimum figure to be used.

It could be called 13.8 or it could be called 14.2. The question of one tenth of a cent to the royalty owner is rather insignificant. (T. 1184.)

Cross examination.

By Mr. Joffee:

(December 18, 1952)

When I used the expression "stabilization" of conservation, I meant "improvement." (T. 1191.)

Some improvement has been effected. (T. 1192.)

Effect of minimum value attribution order

Since the putting into effect of the minimum price order of 8 cents, the number of wells drilled has doubled or more. That is one of the examples of continuing im- [fol. 338] provement of conservation. There has been a marked increase in withdrawals from the field. In my opinion the continuation of the present steps of drilling wells and withdrawal from the field as indicated by the improvement should continue. (T. 1193.)

Commission not forum to litigate controversies between lessors and lessees

Mr. Joffee: May I explain, Your Honor? If it is the contention of applicants that they wish to receive the market value for their gas, and I understand there is ample evidence in the record that that is what they desire to receive, and they have adduced ample evidence here as to what they believe is the present market value of the gas, then insofar as wells which have been leased and where the gas is marketed off of the leased premises, they do, under the provisions of their leases receive or are entitled to receive the market value of that gas, and if they are receiving it they have no complaint to come here. (T. 1200.)

Commissioner Stiles: That is not the point in controversy in this proceeding whatever. If there is any controversy between the lessor and the lessee as to what compensation is being paid, that is a matter that must be taken care of in some other forum. This isn't the place to take care of whether or not there is a breach of contract, the lease contract. (T. 1201.)

Program of Royalty Owners Association

The rest of the program of the Association and the primary purpose of the program is to conserve a natural resource in this case, which is natural gas. (T. 1204.)

That is why this hearing is called, in an attempt to furnish basic facts that would help to conserve this natural resource, which we term is an irreplaceable natural resource, and by setting as a step a minimum price of 14 cents, we think that it would do several things, that it

[fol. 339] would help to keep down actual physical waste of the natural gas, that it would remove the inequitable and the unfair taking of the natural gas from the common source of supply and remove unreasonable discrimination to the land owner by the various producers in the field. (T. 1205.)

Interest of consuming public

We desire to procure a determination of the interests of the public at large in the conservation of a great natural resource.

We recognize that there are hundreds of thousands of people that make up the public at large in the State of Kansas. (T. 1205.)

They involve poor people and little merchants, little manufacturers, as well as people of substance, wealthy corporations and businessmen. (T. 1206.)

It is my opinion that if the price is raised from eight to fourteen cents it would neither. (Tr. 1210) raise the price to the domestic user or the industrial user in Kansas that is using the fuel, that is, not a low utilization user. None of the cost would be passed on. (Tr. 1211.)

Witness excused. (T. 1217.)

Petitioners' exhibits 27, 28, and 29 received in evidence. (T. 588, 589, 1130.) (A. Tr. Ct. 67-74, C. A. Tr. Ct. 181-191.)

C. Counter Abstract of Evidence of Cities Service Gas Company

* * * * * * *

[fol. 341] Testimony of L. C. Benne.

Cross examination.

By Mr. Fleeson:

(January 14, 1953)

Between 1921 and 1924 we began taking gas from the following fields in Kansas, Beaumont, Fleeger, Elco, In-

dependence, Colony, Welda, and Merriam. Those fields are exhausted. (T. 1790.)

• • • • • • •

[fol. 354] Q. Of course you have no Kansas-Hugoton production?

A. That is right.

• • • • • • •

[fol. 356] Testimony of L. H. ALBUS.

Direct examination.

By Mr. Stites:

(December 19, 1952)

I live at Pittsburg, Kansas. I am general works manager of Spencer Chemical Company. (Tr. 1365.)

• • • • • • •

Cross examination.

By Mr. Fleeson:

There is no difference in the price for gas that we use as raw material and the price we pay for gas as a fuel. We have a sliding scale rate and the boiler fuel gas, of course, comes at the tail end of the rate. (Tr. 1440.)

Processed gas is the higher use. We have no substitute for gas as a raw material or as an ingredient in our [fol. 357] product. Coal is an available substitute for fuel. We have a penalty in cost when we utilize coal. (Tr. 1441.) I wouldn't say the use of gas as a fuel is a low use. (Tr. 1442.) Our boilers are still designed for pulverized coal. If they were presently designed for gas, we would get better efficiency of use. (Tr. 1444.) (A. Tr. Ct. 114-118.)

Testimony of O. PLAGENS.

Direct examination.

By Mr. Stites:

(December 19, 1952)

I live at Wichita. I am plant engineer of Boeing Airplane Company at Wichita. (Tr. 1374.) The business of the Boeing plant is airplane construction and at the present time employs 26,000, almost 27,000.

We use gas for boiler fuel, for heating and heat treating, space heating, processing and cafeteria.

Cross examination.

By Mr. Fleeson:

I believe I recognize some uses of natural gas that are high and some that are low. The highest use of natural gas by Boeing is heating, fuel for the heating plant. We have standby equipment. (Tr. 1449.) We have three kinds of standby equipment—oil, coal and propane. The frequency with which we use the standby fuels depends on when we are told to get off, that is; when the pressure gets down to a certain amount we have to get off. (Tr. 1450.) We couldn't put superheaters or preheaters on our present type of boilers. We have Sterling water tube boilers. To get a more efficient operation, we would have to get new equipment. That's the way the factory was set out, with that sort of equipment, and it still remains in use. (Tr. 1451.) (A. Tr. Ct. 118-120.)

[fol. 358] Testimony of C. W. MORRISON.

Direct examination.

By Mr. Stites:

(December 19, 1952)

I live at Bartlesville, Oklahoma. I am employed by the National Zinc Company.

Cross examination.

By Mr. Fleeson:

The principal use for gas in our plant is for heating rotary kilns and then minor use for space heating of the office and machine shop and other buildings. Our gas comes from the line of Cities Service Gas Company.

* * * * * * *

The exhaust gas does not contain any fuel gas, but it does contain a certain amount of heat which we waste. We get about 60 percent efficiency out of natural gas because the gas flowing through the kiln is a counter current step and the heat in the gas is used to preheat the ore coming into the kiln.

[fol. 359] Q. Why do you say that gas in which you only get 60 percent efficiency is not wasteful?

A. I didn't say that—I don't remember that I said it.

Q. Oh, you think it is wasteful?

A. Well, it is wasteful in a sense, yes. Any heat that is wasted is wasted, no matter what fuel you are burning.

Q. You are, then, committing waste in your plant, in your opinion?

A. Yes. (T. 1461.) (A. Tr. Ct. 122-124.)

Testimony of CHARLES FUSSMAN.

Direct examination.

By Mr. Stites:

(December 19, 1952)

I live at Humboldt, Kansas, and am assistant superintendent of Monarch Cement Company's Humboldt plant. My general duties are plant operation, maintenance, just the general, the entire operation of the process of manufacture of Portland cement.

In our operation of our plant we use natural gas. The bulk of the gas, approximately 90 per cent, is utilized in rotary cement kilns. We also generate our own electricity, have our own boilers. Some gas is used in artillery drilled

boilers. We have to dry the limestone and shale that is used, that is our raw material. We use natural gas to dry that. There is normal plant heating. 90 per cent of the gas we use goes to kiln use.

Cross examination.

By Mr. Fleeson:

We have interruptible service with standby equipment. In the kilns we have both coal and fuel oil, No. 6 fuel oil. In the boiler only No. 6 fuel oil. The price is the current yardstick by which we determine whether we go to fuel oil or coal. (T. 1470.) (A. Tr. Ct. 126-128.)

[fol. 360] Testimony of R. T. Wells.

Direct examination.

By Mr. Stites:

(December 19, 1952)

I live at Oklahoma City and I am chief engineer of the Cities Service Gas Company. I have been connected with that company since 1916, entirely in an engineering capacity.

Exhibit No. 47 was prepared under my direction. It is a series of maps of the general pipe line system of Cities Service Gas Company showing the pipe line extensions to gas fields connected by periods from 1905 (T. 1393) through 1951. It also shows the removal of lines during that period.

• • • • • • •

[fol. 363] We have taken gas from perhaps some 77 fields over this period of time, some figure near that, at least those which are cross-hatched on this exhibit would be fields from which we have taken gas. (T. 1406.) (A. Tr. Ct. 130-133, C. A. Tr. Ct. 201.)

Testimony of L. C. BENNE.

L. C. BENNE was cross-examined in lieu of Mr. Wells.

Direct examination.

By Mr. Stites:

(January 14, 1953)

I am employed by Cities Service Gas Company as assistant general superintendent of operations. I have been with Cities Service Gas Company twenty-four years and in my capacity in the operating department am familiar with the maps and pipe line records of the company. I was present when Mr. Wells testified in this proceeding and am familiar with the exhibit that was sponsored by Mr. Wells—Exhibit No. 47. (T. 1785.)

Q. For the purpose of cross-examination in Mr. Wells absence do you adopt and ratify his direct testimony and the exhibits that were offered by Mr. Wells?

A. Yes, sir. (T. 1786.)

Cross examination.

By Mr. Fleeson:

In 1905 our company was taking gas from the following fields: East Chanute, West Chanute, Altoona, Neodesha, Mound Valley and Independence. These fields were in Kansas and have been depleted. (T. 1786.) Between 1907 and 1915, we began taking gas from the Sudan field in Kansas and from the following fields in Oklahoma: North Osage, Pawhuska, Hogshooter, Owasso, Tulsa, Catoosa, Terlton, Yale, Cushing and Shamrock. All of these [fol. 364] fields have been depleted as far as us taking gas out of them. Referring to page 4 of Exhibit 47, between 1916 and 1920 we began taking gas from the following fields in Kansas (T. 1787): El Dorado, Boyer, Augusta, Winfield, Peoria. These fields have been depleted and exhausted. During the period 1916 to 1920 we began taking gas from the following fields in Oklahoma: Oilsworth, Pearsonia, Meyers, Dewey, and Hominy and Osage. (T. 1788.) I don't

believe these fields have been exhausted. We are not taking gas out. There is gas being taken locally out of some of those fields. (T. 1789.) We pulled out of those fields because the supply of gas wasn't sufficient to load the line that was going out of the field. I wouldn't say that it was because we had cheaper gas that we could buy elsewhere. I would say that we had a more ready supply in another field.

Between 1921 and 1924 we began taking gas from the following fields in Kansas: Beaumont, Fleeger, Elco, Independence, Colony, Welda and Merriam. Those fields have been abandoned. (T. 1790.) During that same period we began taking gas from the following Oklahoma fields: Burbank, Ostot, Westerly, Bristow and Mehan. Those fields have been exhausted.

Between 1925 and 1934 we began taking gas from the following fields in Kansas: Lipps, Welborn, Burrton, Padgett and Rainbow Bend. Those fields have been exhausted. (T. 1791.) During the same period we began taking gas from the following fields in Oklahoma: Deer Creek, Garber, Perry, Lucien, Marshall-Lovell, Crescent, Oklahoma City, Seminole, Dupew, Davenport and Ripley. Those fields have not all been exhausted. There has been further development at Marshall-Lovell, Crescent and Oklahoma City. However, we have no pipeline into that end of Marshall-Lovell on the Crescent area. We are not taking any gas out of there. Those fields were not abandoned [fol. 365] because of (T. 1792) pressure. The reason they were abandoned, as I recall it, it was a competitive situation. (T. 1793.)

Q. Mr. Benne, what I want to know is why you abandoned, for example, Marshall-Lovell and Crescent and Oklahoma City. Oklahoma City was exhausted when you left the field?

A. Right. There has been further development in Oklahoma City, but we have nothing to do with it.

Q. I understand. Why did you abandon Marshall-Lovell and Crescent fields?

A. Well, I think I answered that, it was because of (T. 1794) competitive fuel price.

Q. That is to say you could get cheaper gas some place else?

A. More readily available, yes.

Q. More readily available and at a cheaper price, is that correct?

A. That is possible, yes.

Q. You just pulled your lines and left, is that correct?

A. No, there was already another operating company in there besides us, and they took over the production after we left.

Between 1935 and 1940, we began taking gas from the following fields in Kansas: St. Paul, Wellington, Cunningham, Lyons, Alden, Orth, Stone and Sterling. These fields have been exhausted. (T. 1795.) During the same period we began taking gas from the following fields in Oklahoma: Edmond, Fitts, Paden, Arlington, Vanderslice, Lincreek, Coyle and Wolff. We are still taking gas out of Edmond field, but the others have been exhausted.

During the period 1941 to 1945 we began taking gas from the following Kansas fields: Rader and Eberhardt and south Kansas City field in Missouri. (T. 1796.) Those fields have been exhausted. During the same period we [fol. 366] began taking gas from the following Oklahoma fields: Cement, Guthrie, South Oglesby, East Sporn, Southeast Depew, West Arno, East Stroud, North Paden, Keokuk Falls, Borroum and Hugoton. We are still taking gas from Cement and Hugoton fields.

Q. Are those the only fields left? During this period of time, then, you have abandoned as exhausted and depleted approximately 77 gas fields in Kansas, Oklahoma, and one in Missouri, is that correct, 91?

A. I will say that that is nearly correct. (T. 1797.)

We began taking gas from the Texas Panhandle in 1927. During the period 1946 to 1951 we began taking gas from the following Kansas fields: South Mound, Belpre, Schulte and Hugoton, and the following fields in Oklahoma: West Edmond, Witcher, Uncas and Cole. We are still taking gas from West Edmond, Hugoton and St. Paul. (T. 1798.) I wouldn't say that those wells were abandoned. I think those wells are being used to some

extent to supply gas to the small towns down there that are not connected to our system. (T. 1799.)

Cities Service Gas Company is now taking gas from the following fields in Kansas: Kansas-Hugoton, Schulte, St. Paul and Belpre. There are three wells in the Schulte field, two in the Belpre. There were two in the St. Paul, but I believe there is one. (T. 1800.) It is a shotgun figure, but I believe we are taking from approximately 800 wells in the Kansas-Hugoton field. Our new line to the Kansas-Hugoton field was started in 1948 and completed in 1949. We began taking gas December 13, 1948. The additional distribution facilities or new markets connected with this line were Osage City and Sylvia. (T. 1801.)

. . . . . .

[fol. 367] Testimony of CHARLES C. HOFFMAN:

Direct examination.

By Mr. Stites:

(January 14, 1953)

I live at Oklahoma City.

. . . . . .

In 1930 I went with Cities Service Gas Company as chief geologist (T. 1411), and have been in that capacity ever since.

I have prepared an exhibit showing the reserves that were connected during these periods as indicated in Exhibit No. 47.

Protestants' Exhibit No. 49 was marked for identification.

Exhibit No. 49 was prepared in my office. Turning to the second page of Exhibit No. 49, the figure 238 under reserve refers to the amount of gas reserves shown by hashered lines on page 1 of Exhibit No. 47 and were added during or before 1905. Skipping to 1906 (on Exhibit No. 49), zero means that as of that development period there were no reserves connected. (T. 1412.) Then for the other periods the figures there in the right-hand column repre-

sent my estimate of the gas reserves that were connected during the construction period.

Getting down to the period 1925 to 1934, I would read that 2 trillion 7 hundred 4 billion. That was the year the Texas Panhandle was added. During the period 1941 to 1945 Oklahoma-Hugoton and Edmond were added. The '41-'46 period reflects the (T. 1413) addition of the Kansas-Hugoton field.

[fol. 368] Exhibit No. 49 was received in evidence. (T. 1414.)

Cross examination.

By Mr. Stucky:

Referring to Exhibit No. 49, the periods of time shown on my exhibit coincide with the periods of time shown on Exhibit No. 47, prepared by Mr. Wells. All of the reserves added 1905 and before have been depleted with one exception and that is an area that was connected in 1905 in Montgomery County and is still producing. (T. 1834.)

On page 9 of Exhibit 47, the ones that are cross-hatched, as I understand it, are the ones that were connected during the years that it is supposed to show there. (T. 1835.) In other words, I added 238 during the period 1905 and before, and of that there is 219 million left as compared to 238 billion shown on the exhibit.

Referring to the figure 402 which I show as the reserve added during the period 1907 to 1915 (T. 1837) of those reserves I would say that none are left.

Referring to reserves added during the year 1910 to 1920, there is only a small amount still producing in Osage. 134 million is a figure comparative to the figure 228 on our exhibit 49.

Referring to the period from 1921 to 1924, I think those are entirely exhausted.

Referring to the period 1925 to 1934, all the reserves added during that period except Panhandle Field (T. 1838) and Lucien Field just north of Oklahoma City have been exhausted. The figure for the Lucien Field is two billion. The nearest round figure is 2.2.

All of the reserves added during 1935 to 1940 have been depleted except Texas and Lucien. (T. 1839.)

All of the reserves added during the period 1935 to 1940 have been depleted except a very small amount.

Our Company has been connected with 95 or so fields from which it no longer takes gas. (T. 1840.)

[fol. 369] I would say that an increased field price would help in finding additional reserves, especially if it was based on demand. (T. 1844.) (A. Tr. Ct. 138-144.)

• • • • • • •

[fol. 370] D. Counter-Abstract of Evidence of Panhandle Eastern Pipeline Company

---

Testimony of C. H. Hinton.

Direct examination.

By Mr. Adams:

(December 19, 1952)

Qualifications

His address is Liberal, Kansas. He received training in mechanical engineering at the University of Illinois, class of 1928, and is chief production engineer in charge of development of properties on the production and gathering system of his company, having charge of the reserves and gas supply of the company. (T. 1480.) His company engages in the production and transmission of natural gas, the sale of gas for resale at town borders, some direct industrial sales, and sales made from the company's system in the field before it enters the main transmission system. The Company's system commences in Moore County, Texas, and extends northward through Oklahoma and Kansas, then northeastward through Missouri, Illinois, Indiana, Ohio and Michigan, with production properties in Michigan. The Company's line has a design capacity of 650 million cubic feet per day to Tuscola, Illinois, and 850 million cubic feet per day from there eastward, being joined by a pipe line from the Gulf Coast at Tuscola. (T. 1481.) His

experience with the company, over a 19 year period, has been in the engineering and production department, and he had previously been with the Ajax Pipe Line Company, Mississippi River Fuel Company, and Trunk Line Gas Supply Company. (T. 1482.)

Gas supply is the backbone of the natural gas industry; without it the industry has little value. (T. 1482.)

Q. Do you belong to any organizations the principal purpose of which is to foster conservation of oil or gas?

A. Yes, I am a member of the Institute of Mining and [fol. 371] Metallurgy Engineers, a member of the American Gas Association, a member of the American Petroleum Institute, and another local organization which has conservation in mind, particularly as to the pressure maintenance and repressuring programs, which is the Panhandle Geological Society.

* * * * * * *

Cross examination.

By Mr. Fleeson:

Q. Mr. Hinton, you have testified to your interest in conservation.

A. Yes, sir.

Q. And you stated, I think, that your company is practicing conservation?

A. That is correct.

Q. You made a speech, did you not, "The Story of the Hugoton Gas Field," before the Interstate Oil Compact Commission on December 6, 1952, did you not?

A. I did.

Relationship between value, conservation and waste

Q. Is this what you understand by conservation, and I quote, "Conservation is the inverse of waste and when conservation is discussed it is a rare thing to hear argument over the definition of the word 'conservation,'" is that a part of your speech? (T. 1495.)

A. That is correct.

Q. In that same speech you said this, did you not, "When the demand for natural gas was low, the value was low.

[fol. 372] When the value was low, the operator could not afford to take great pains and expense to operate in a manner that would cause the least waste. Why? Because the gas cost was cheaper than the requirement investment to construct leakproof transportation facilities," did you say that?

A. I did.

Q. And that is correct, isn't it?

A. Yes, sir.

Blowing of wells and leaks and effect of hydrochloric acid on wellhead price

Q. Did you also say, "As the demand has increased and the price has increased, it can be observed that producers are completing wells so as to use less gas while completing the well. The use of hydrochloric acid has increased the ultimate recovery of natural gas; meanwhile, methods of acidizing have been advanced so that less gas is blown to the air during acid treatment.

"In the early years pipe lines were laid without paint or protective covering. In many cases, independent producers would lay screw lines of old second-hand pipe without (T. 1496) regard to leakage. Today nearly all pipe lines are laid under rigid specifications which incorporate up-to-date engineering technique. The lines are painted and wrapped with paper or coated with a covering of fibre glass. Cathodic protection is immediately installed and lines are subjected to rigid leakage tests before being placed into operation.

"These measures cost money but show a desirable rate of return on the higher cost of gas saved. The net result is conservation," did you say that?

A. I did.

Q. Is that correct today?

A. That is my opinion, yes, sir. (T. 1497.)

[fol. 373] Relationship between value and additional development

Q. You also said in that same speech, "To what price level must natural gas reach to accomplish good conserva-

tion? I do not believe that any definite figure can be named today which will apply to future conditions, but whatever it may be it should be on a sound economic level. I am firmly convinced that the word conservation also applies to the preservation of the presently proven (T. 1498) reserve by augmenting with additional discoveries." Did you say that?

A. Yes, sir.

Q. And one more question, did you also say, "The increased cost of discovery from deeper reservoirs, the drilling of marginal wells which would not be commercial at low prices can lead only to a higher price to be paid for gas. Without intelligent state regulation which has led to good conservation, the consumer price would be still higher. Today we find state regulatory bodies and the oil and gas industry in the producing states working as a team"?

Necessity for sound level of wellhead prices

A. I would like to go back to a sentence you read there referring to sound economic level. I want to get, I want to say, that my interpretation of sound economic level means that you cannot upgrade the price of a product rapidly in one step because my interest is with the consumer, not only in Kansas, I live in Kansas, I am on the Gas Committee of the State Chamber of Commerce, I am on the Southwest Industry Development Committee, and when I talk about a sound economic level, if this thing goes too fast and the price goes up too fast, an industrial load increases to drop off (T. 1499) at too rapid a rate, and then our gas price in the Hugoton field will be right back to where it was ten to fifteen years ago, because with a low load factor on a pipe line the consumer is going to [fol. 374] pay a much higher price than just the increase in the wellhead price. So I am very serious about the sound economic level.

. . . . . .

A. I also recognize that it is going to take a somewhat higher price to create the incentive to drill (T. 1500) and the thing has to be kept on a level, but I have in mind, and I'd like to convey to these 142 cities that a short-sighted

view of today can cost the same 142 cities much more money than will be saved in shor'-sighted position. (T. 1501.)

Redirect examination.

By Mr. Adams:

Conservation effect of 8-cent order

Q. Referring to this Commission's minimum price conservation order of February, 1949, in this paper from which counsel asked you certain questions, Mr. Hinton, you referred to the adoption of conservation practices by the pipe line companies and producers generally. I wonder from your experience if you could tell us what, if any, of those conservation practices have been, to your knowledge or observation, occurring only since February, 1949?

A. Yes. As soon as the cost of the product goes up, then more closely becomes the guardianship of the cost of that product.

[fol. 375] I am speaking for Panhandle Eastern, one, prior to 1949 we were spending annually in the order of $5,000 for cathodic protection. That estimate was raised to $75,000 the next year, it is a hundred thousand dollars this year. We were not patrolling our small diameter lines by walking. We have commenced to send out patrolmen to walk all of the lines.

Q. By that you mean that you avoid leakage which previously occurred? (T. 1502.)

A. That is right. I fly over the field a number of times during the year. I think that you can notice that the little brown spots of vegetation which indicates leakage are now beginning to disappear. You fly over the field and you will notice many places where a back-hole has been digging out leaks.

Another thing is the fuel that is used in the compressor stations which is one of the large, I might say, major uses of natural gas, as the prime mover is to transport the gas through the pipe lines.

I know today the operating end is eying the fuel consumption engines very closely. In fact, it has become a

very major competitive thing against the four large engine manufacturers today. (T. 1503.)

Recross examination.

By Mr. Kyle:

Q. Mr. Hinton, I want to ask you one or two questions. From the very beginning of the operation of the field on a big scale, why, you have been employed by Panhandle, is that correct? (T. 1503.)

A. That is correct.

Q. And you are familiar with the early struggles of this Commission in the interest of the public to achieve some measure of conservation as it relates to that field, is that correct?

A. I have spent many days in hearings.

[fol. 376] Q. And you are aware of all the extensive hearings and litigation that was brought about by those who opposed conservation in the early days in Kansas, is that correct?

A. Yes, sir, I am.

Q. You have had an opportunity to observe the workings of the basic order in Docket C-164 and its amendments since 1944, is that correct?

A. I have.

Q. And you had an opportunity to observe the operations and the functioning of the eight-cent order since 1949?

A. Yes, sir, I have.

Q. Do you think that eight-cent order in a measure has achieved some conservation?

A. I am convinced it has, not only from the standpoint of better operations in the field itself but the fact that that price begins to call risk capital into the area of southwest Kansas, which has great potential possibilities (T. 1504) but without a higher price of gas there was very little drilling done prior to the increase in the price of gas.

Q. At the end of the life of the field isn't there a factor known as premature abandonment?

A. Yes.

Q. And what does that have to do as far as a minimum price is concerned, if you know?

A. How long you can make the stockholders money, that is how long you produce a well. But I might add that there is very little incentive for a pipe line to continue to produce a well without having been ordered by the Federal Power Commission to revert to their system of accounting instead of employing accounting that was in accordance with the conservation order.

Q. Isn't actually the real incentive as far as a pipe-line company is concerned is profit, is that right?

A. I beg your pardon?

[fol. 377] Q. The actual incentive in the operation of a pipe-line company is profit, isn't that true?

A. Or any other operation.

Q. And in seeking to obtain greater reserves and greater supplies of gas and in seeking to get the fullest ultimate recovery, does that not produce conservation of gas? (T. 1505.)

A. Yes, it does. And I would like to point out the exhibit that Mr. Tippy put into evidence yesterday, I think that exhibit was very accurate, and we must keep a full supply of gas to avoid those valleys and create a low load factor for the public or the public will be paying so much for natural gas that there will be no demand for it.

. . . . . .

Q. Do you know of cases in the state of Kansas and other states where there has been premature abandonment of gas fields?

A. Oh, very definitely. I refer to the Trenton field, in Indiana, and Ohio, where the price has very little value, it is still possible to go over to the Trenton field and drill commercial wells, after the field has been (T. 1506) abandoned some 25 years.

I can give you a very fine example that I encountered in Texas where a gas well was brought in, it had a 52 million open flow and the casing was pulled from that well and the well was plugged because the price was so low that there was no incentive to keep the well. (T. 1507.)

[fol. 378] Q. But if there had been a satisfactory floor or minimum price they'd still be producing from that well?

A. If there had been a demand I would say that the well could have been kept. And as soon as the price structure reaches the point where too much industrial load has to be dropped or there is an attempt on the end use of gas to control such use, then you are going (T. 1507) to find the value of gas will revert right back to where it was because demand spells the price of gas.

Q. Let me ask you one further question. In the paper which you delivered at the Oil Compact, to which Mr. Fleeson made reference, you used the expression of augmentation or augmenting supplies. What did you mean by that?

A. I meant that by creating a desire to invest risk capital, and such desire as is created by showing a high rate of return, that such risk capital would be spent in the drilling in the search for additional reserves.

Q. If you have additional reserves you practice conservation at the same time?

A. Absolutely. You must remember another thing about the Hugoton field of Kansas, it is a low permeability field and it is not too many years before that field is going to have to be shut in for a few days at a time in order for the companies to meet their peak loads from that field.

I also think conservation could be accomplished by giving the pipe line companies incentive to create storage projects or maybe the distribution companies. I think that should be considered in a rate structure of any company.

Q. Has the pay-out period increased in the last ten years (T. 1508) in that field?

A. No, I don't believe it has. I believe the pay-out period has decreased in the last ten years for two reasons. There is less than half of the gas being produced from each [fol. 379] well per day than there was ten years ago, and the other is that the income tax rate has become so high that the net income has been reduced and the pay-out period has been increased. (T. 1509.)

Further redirect examination.

By Mr. Adams:

Q. Mr. Hinton, since January or February, 1949, there has continued to be some price increases in the Kansas-Hugoton field, have there not?

A. Oh, yes. It is impossible to approach the purchase of gas based on the minimum price today.

Q. And the demand for gas likewise has increased since then?

A. Yes. I believe it has approximately tripled since 1949. (T. 1509.)

Further recross examination.

By Mr. Kyle:

In connection with Panhandle's affairs at the time of the 1949 order Panhandle had to make as much as 100 percent increases in prices under the eight-cent order. (T. 1510.)

E. Counter Abstract of Exhibits

Abstract of Exhibit 1

This exhibit is the Basic Proration Order for the Hugoton Gas Field, as amended, issued by the State Corporation Commission of the State of Kansas, Docket No. C-164.

Abstract of Exhibit 2

These are the Hugoton Field nominations from October 1, 1952, to March 31, 1953.

Abstract of Exhibit 3

This exhibit is the Gas Proration Order and Report for the Hugoton Field for October 1952. The report attached to the order shows that well head pressures effective as of October 1, 1952, in the Hugoton Field reached from 313 pounds upward. It also shows that at that time there [fol. 380] were 2813 wells to which were attributed 1,783,271

acres. The exhibit gives the following information with regard to the pipeline takers in the field: The number of wells feeding into the pipelines, the acreage attributed to those wells, and the volume of gas supplied by the wells to the pipelines in September 1952 (volumes expressed in thousand cubic feet, 14.65 p.s.i.a.)

Name of Purchaser	*Wells*	*Acreage*	*Runs*
Cities Service	867	555,074	7,364,303
Colorado Interstate	215	138,340	84,814
Hugoton Production	130	81,816	1,207,920
Kansas-Colorado	26	16,158	70,860
Kansas-Nebraska	156	100,523	1,034,486
Northern Natural	841	532,089	6,497,245
Panhandle Eastern	448	278,631	4,055,137
Quinque	11	4,960	25,581
Shallow Water	3	1,600	4,815
United Carbon	116	74,080	471,190
Total	2,813	1,783,271	20,816,351

[fol. 381] EXHIBIT No. 4

(See Opposite) ☞

WELLHEAD VALUE OF HUGOTON GAS BASED ON PRICES OF COMPETITIVE RESIDENTIAL HEATING FUELS

(Cents per MCF)

(a)	Based on Stoker-fired Coal Price		Based on Hand-fired Coal Price		Based on Oil Price	
	Low	High	Low	High	Low	High
	(b)	(c)	(d)	(e)	(f)	(g)
16.4 psia						
1. Denver	45.6	.....	34.3	39.8	84.6	142.0
2. Detroit	35.1	.....	16.1	27.2	52.1	109.5
3. Kansas City	57.7	65.4	28.0	64.7	80.2	129.9
4. Minneapolis	35.4	43.8	28.9	51.0	52.4	108.2
5. Omaha	37.6	.....	37.5	48.5	55.8	109.2
14.65 psia						
6. Denver	40.7	.....	30.6	35.5	75.6	126.8
7. Detroit	31.4	.....	14.4	24.3	46.6	97.8
8. Kansas City	51.5	58.4	25.0	57.8	71.6	116.0
9. Minneapolis	31.7	39.1	25.8	45.5	46.8	96.6
10. Omaha	33.6	.....	33.5	43.3	49.8	97.5

October, 1952

DELIVERED PRICES PER MILLION BTU FOR COMPETITIVE RESIDENTIAL HEATING FUELS

(a)		Coal (b)	Oil (c)	Gas (d)	Ratio: Gas to Coal (e)	Ratio: Gas to Oil (f)
1. Denver	High	55.4c	106.8c	45.2c	0.82	0.42
2.	Low	39.8	94.5	45.2	1.14	0.48
3 Detroit	High	70.8	111.4	78.3	1.11	0.70
4.	Low	62.5	99.4	78.3	1.25	0.79
5. Kansas City	High	73.1	96.7	45.2	0.62	0.47
6.	Low	44.8	85.4	45.2	1.01	0.53
7. Minneapolis	High	82.9	105.9	72.4	0.87	0.68
8.	Low	62.4	95.6	72.4	1.16	0.76
9. Omaha	High	79.3	103.0	70.0	0.88	0.68
10.	Low	55.2	91.5	70.0	1.27	0.77

Calculation of Wellhead Value of Hugoton Gas
Based on Equal Cost With High-Volatile Coal Used in Stokers for Residential Heating

(a)	(b)	Denver (c)	Detroit d)	Kansas City (e)	Minneapolis (f)	Omaha (g)
1. *Value of Gas for Equal Cost:*						
2. Heating Value of Coal	MM Btu/ton	25.0	28.0	25.0	24.0	27.0
3. Delivered Coal Price	$/ton	9.96	17.76	11.21	14.98	14.90
4. Delivered Coal Price	¢/MM Btu	39.8	63.4	44.8	62.4	55.2
5. Efficiency of Coal Use	% realized	65.0	65.0	65.0	65.0	65.0
6. Cost of Realized Heat:						
a. Fuel	¢/MM Btu	61.2	97.5	68.9	96.0	84.9
b. Stoker	¢/MM Btu	47.0	42.0	55.0	34.0	45.0
c. Total	¢/MM Btu	108.2	139.5	123.9	130.0	129.9
7 Efficiency of Gas Use	% realized	78.0	78.0	78.0	78.0	78.0
8. Value of Delivered Gas	¢/MM Btu	84.4	108.8	96.6	101.4	101.3
9. *Delivered Costs for Gas*	¢/MM Btu	38.2	71.5	38.2	64.6	62.2
10. *Value of Gas:*						
11. Less Delivery Costs	¢/MM Btu	46.2	37.3	58.4	36.8	39.1
12. At Pipelipe Entry	¢/MM Btu	42.4	32.0	52.6	32.4	34.4
13. At Wellhead						
14. 16.4 psia	¢/Mcf	45.6	35.1	57.7	35.4	37.6
15. 14.65 psia	¢/Mcf	40.7	31.4	51.5	31.7	33.6

Calculation of Wellhead Value of Hugoton Gas
Based on Equal Cost With Low-Volatile Coal Used in Stokers for Residential Heating

(a)	(b)	Kansas City (c)	Minneapolis (d)
1. *Value of Gas for Equal Cost:*			
2. Heating Value of Coal	MM Btu/ton	28.0	28.0
3. Delivered Coal Price	$/ton	15.37	19.48
4. Delivered Coal Price	¢/MM Btu	51.3	69.6
5. Efficiency of Coal Use	% realised	65.0	65.0
6. Cost of Realised Heat:			
a. Fuel	¢/MM Btu	78.9	107.1
b. Stoker	¢/MM Btu	55.0	34.0
c. Total	¢/MM Btu	133.9	141.1
7. Efficiency of Gas Use	% realised	78.0	78.0
8. Value of Delivered Gas	¢/MM Btu	104.4	110.0
9. *Delivery Costs for Gas*	¢/MM Btu	38.2	64.6
10. *Value of Gas:*			
11. Less Delivery Costs	¢/MM Btu	66.2	45.4
12. At Pipeline Entry	¢/MM Btu	59.6	40.0
13. At Wellhead			
14. 16.4 psia	¢/Mcf	65.4	43.8
15. 14.65 psia	¢/Mcf	58.4	39.1

October, 1952

Calculation of Wellhead Value of Hugoton Gas
Based on Equal Cost With Hand-fired Coal for Residential Heating

Denver		High-Volatile, Western		Lignite	
		Lump	Nut	Lump	Egg
(a)	(b)	(c)	(d)	(e)	(f)
1. *Value of Gas for Equal Cost:*					
2. Heating Value of Coal	MM Btu/ton	25.0	25.0	19.6	19.6
3. Delivered Coal Price	$/ton	13.82	12.87	10.85	10.81
4. Delivered Coal Price	¢/MM Btu	55.3	51.5	55.4	55.2
5. Efficiency of Coal Use	% realized	55.0	55.0	55.0	55.0
6. Cost of Realized Heat	¢/MM Btu	100.5	93.6	100.7	100.4
7. Efficiency of Gas Use	% realized	78.0	78.0	78.0	78.0
8. Value of Delivered Gas	¢/MM Btu	78.4	73.0	78.5	78.3
9. *Delivery Costs for Gas*	¢/MM Btu	38.2	38.2	38.2	38.2
10. *Value of Gas:*					
11. Less Delivery Costs	¢/MM Btu	40.2	34.8	40.3	40.1
12. At Pipeline Entry	¢/MM Btu	36.9	31.9	37.0	36.8
13. At Wellhead					
14. 16.4 psia	¢/Mcf	39.7	34.3	39.8	39.6
15. 14.65 psia	¢/Mcf	35.4	30.6	35.5	35.3

October, 1952

Calculation of Wellhead Value of Hugoton Gas
Based on Equal Cost With Hand-fired Coal for Residential Heating

Detroit (a)	(b)	Low-Volatile Egg (c)	Low-Volatile Stove (d)	Low-Volatile Nut (e)
1. *Value of Gas for Equal Cost:*				
2. Heating Value of Coal	MM/Btu/ton	28.0	28.0	28.0
3. Delivered Coal Price	$/ton	19.83	19.38	17.49
4. Delivered Coal Price	¢/MM Btu	70.8	69.2	62.5
5. Efficiency of Coal Use	% realized	55.0	55.0	55.0
6. Cost of Realized Heat	¢/MM Btu	128.7	125.8	113.6
7. Efficiency of Gas Use	% realized	78.0	78.0	78.0
8. Value of Delivered Gas	¢/MM Btu	100.4	98.1	88.6
9. *Delivery Costs for Gas*	¢/MM Btu	71.5	71.5	71.5
10. *Value of Gas:*				
11. Less Delivery Costs	¢/MM Btu	28.9	26.6	17.1
12. At Pipeline Entry	¢/MM Btu	24.8	22.8	14.7
13. At Wellhead				
14. 16.4 psia	¢/Mcf	27.2	25.0	16.1
15. 14.65 psia	¢/Mcf	24.3	22.3	14.4

Calculation of Wellhead Value of Hugoton Gas
Based on Equal Cost With Hand-fired Coal for Residential Heating

Kansas City (a)	(b)	Low-Volatile		High-Volatile, Western	
		Lump	Egg	Lump	Nut
		(c)	(d)	(e)	(f)
1. *Value of Gas for Equal Cost:*					
2. Heating Value of Coal	MM Btu/ton	28.0	28.0	25.0	25.0
3. Delivered Coal Price	$/ton	20.25	20.48	12.04	11.72
4. Delivered Coal Price	¢/MM Btu	72.3	73.1	48.2	46.9
5. Efficiency of Coal Use	% realized	55.0	55.0	55.0	55.0
6. Cost of Realized Heat	¢/MM Btu	131.5	132.9	87.6	85.3
7. Efficiency of Gas Use	% realized	78.0	78.0	78.0	78.0
8 Value of Delivered Gas	¢/MM Btu	102.6	103.7	68.3	66.5
9. Delivery Costs for Gas	¢/MM Btu	38.2	38.2	38.2	38.2
10. *Value of Gas:*					
11. Less Delivery Costs	¢/MM Btu	64.4	65.5	30.1	28.3
12. At Pipeline Entry	¢/MM Btu	58.0	59.0	27.1	25.5
13. At Wellhead					
14. 16.4 psia	¢/Mcf	63.6	64.7	29.7	28.0
15. 14.65 psia	¢/Mcf	56.8	57.8	26.6	25.0

October, 1952

Calculation of Wellhead Value of Hugoton Gas
Based on Equal Cost With Hand-fired Coal for Residential Heating

Minneapolis		Low-Volatile		High-Volatile, Eastern		High-Volatile Western
		Lump	Egg or Stove	Lump	Egg	Stove
(a)	(b)	(c)	(d)	(e)	(f)	(g)
1. *Value of Gas for Equal Cost:*						
2. Heating Value of Coal	MM Btu/ton	28.0	28.0	28.0	28.0	21.0
3. Delivered Coal Price	$/ton	23.10	23.21	21.28	20.49	16.00
4. Delivered Coal Price	¢/MM Btu	82.5	82.9	76.0	73.2	66.7
5. Efficiency of Coal Use	% realized	55.0	55.0	55.0	55.0	55.0
6. Cost of Realized Heat	¢/MM Btu	150.0	150.7	138.2	133.1	121.3
7. Efficiency of Gas Use	% realized	78.0	78.0	78.0	78.0	78.0
8. Value of Delivered Gas	¢/MM Btu	117.0	117.5	107.8	103.8	94.6
9. *Delivery Costs for Gas*	¢/MM Btu	64.6	64.6	64.6	64.6	64.6
10. *Value of Gas:*						
11. Less Delivery Costs	¢/MM Btu	52.4	52.9	43.2	39.2	30.0
12. At Pipeline Entry	¢/MM Btu	46.2	46.6	38.1	34.5	26.4
13. At Wellhead						
14. 16.4 psia	¢/Mcf	50.5	51.0	41.7	37.7	28.9
15. 14.65 psia	¢/Mcf	45.1	45.5	37.2	33.7	25.8

October, 1952

Calculation of Wellhead Value of Hugoton Gas
Based on Equal Cost With Hand-fired Coal for Residential Heating

Omaha		Low-Volatile, Western			H-V Bituminous
		Paris	Parco Lump	Ideal Lump	Franklin Co. Lump
(a)	(b)	(c)	(d)	(e)	(f)
1. *Value of Gas for Equal Cost:*					
2. Heating Value of Coal	MM Btu/ton	28.0	28.0	28.0	23.0
3. Delivered Coal Price	$/ton	22.20	21.45	20.95	16.40
4. Delivered Coal Price	¢/MM Btu	79.3	76.6	74.8	71.3
5. Efficiency of Coal Use	% realized	55.0	55.0	55.0	55.0
6. Cost of Realized Heat	¢/MM Btu	144.2	139.3	136.0	129.6
7. Efficiency of Gas Use	% realized	78.0	78.0	78.0	78.0
8. Value of Delivered Gas	¢/MM Btu	112.5	108.7	106.1	101.1
9. *Delivery Costs for Gas*	¢/MM Btu	62.2	62.2	62.2	62.2
10. *Value of Gas:*					
11. Less Delivery Costs	¢/MM Btu	50.3	46.5	43.9	38.9
12. At Pipeline Entry	¢/MM Btu	44.3	41.0	38.7	34.3
13. At Wellhead					
14. 16.4 psia	¢/Mcf	48.5	44.9	42.3	37.5
15. 14.65 psi	¢/Mcf	43.3	40.1	37.8	33.5

October, 1952

Calculation of Wellhead Value of Hugoton Gas
Based on Equal Cost With Number 1 Fuel Oil Used in Gravity Feed Burners

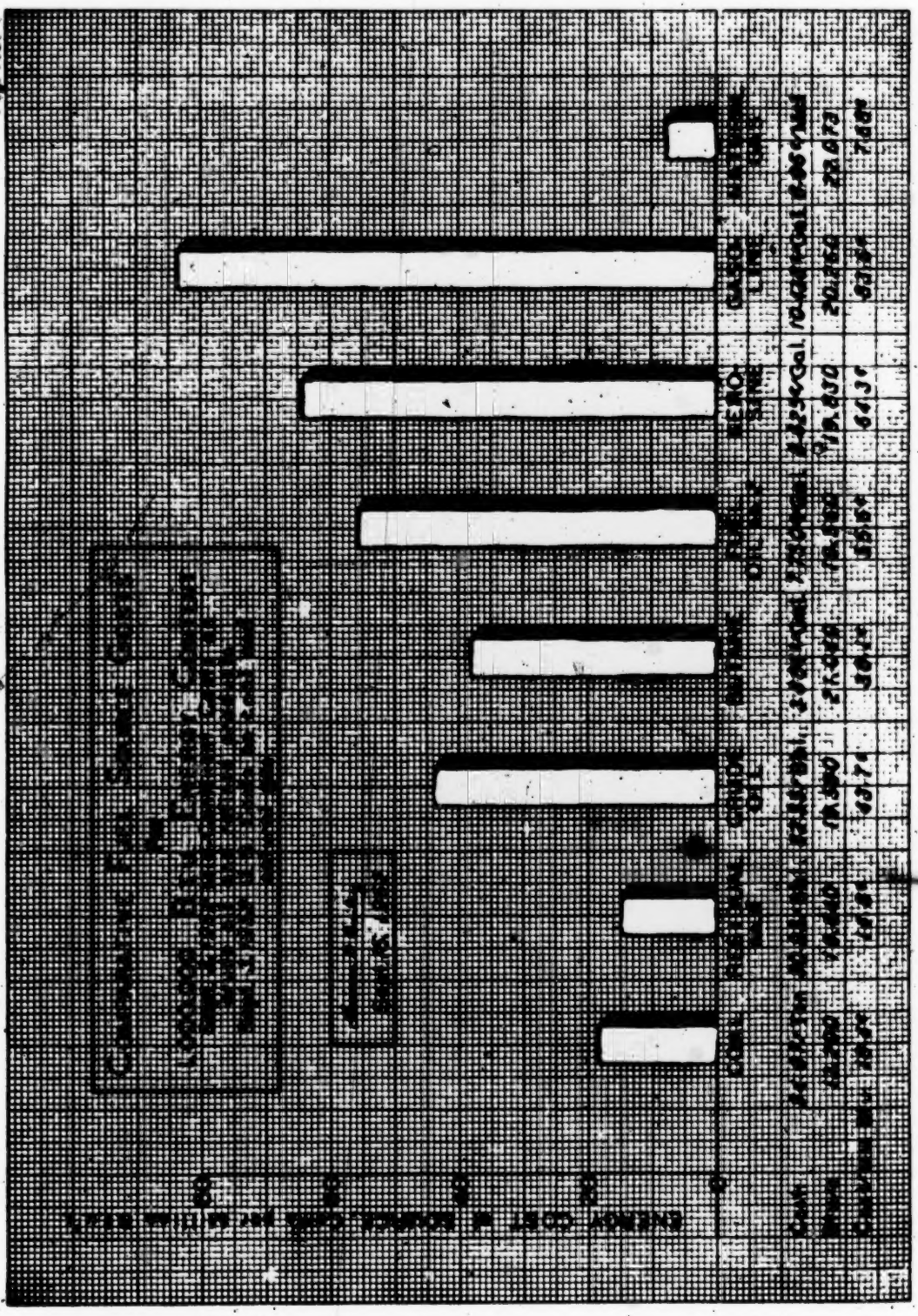
a)	(b)	Denver (c)	Detroit (d)	Kansas City (e)	Minneapolis (f)	Omaha (g)
1. *Value of Gas for Equal Cost:*						
2. Heating Value of #1 Oil	MM Btu/gallon	0.135	0.135	0.135	0.135	0.135
3. Delivered Oil P ice	¢/gallon	14.42	15.04	13.06	14.50	13.90
4. Delivered Oil Price	¢/MM Btu	106.8	111.4	96.7	105.9	103.0
5. Efficiency of Oil Use	% realised	50.0	50.0	50.0	50.0	50.0
6. Cost of Realised Heat:						
a. Fuel	¢/MM Btu	213.6	222.8	193.4	211.8	206.0
b. Burner	¢/MM Btu	20.0	18.0	24.0	15.0	19.0
c. Total	¢/MM Btu	233.6	240.8	217.4	226.8	225.0
7. Efficiency of Gas Use	% realised	78.0	78.0	78.0	78.0	78.0
8. Value of Delivered Gas	¢/MM Btu	182.2	187.8	169.6	176.9	175.5
9. *Deliv.ry Costs for Gas*	¢/MM Btu	38.2	71.5	38.2	64.6	62.2
10. *Value of Gas:*						
11. Less Delivery Cost	¢/MM Btu	144.0	116.3	131.4	112.3	113.3
12. At Pipeline Entry	¢/MM Btu	132.1	99.8	118.4	98.9	99.8
13. At Wellhead						
14. 16.4 psia	¢/Mcf	142.0	109.5	129.9	108.2	109.2
15. 14.65 psia	¢/Mcf	126.8	97.8	116.0	96.6	97.5

October, 1953

Calculation of Wellhead Value of Hugoton Gas
Based on Equal Cost With Number 2 Fuel Oil Used in Force Feed Burners

(a)	(b)	Denver (c)	Detroit (d)	Kansas City (e)	Minneapolis (f)	Omaha (g)
1. *Value of Gas for Equal Cost:*						
2. Heating Value of #2 Oil	MM Btu/gallon	0.141	0.141	0.141	0.141	0.141
3. Delivered Oil Price	¢/gallon	13.32	14.01	12.04	13.48	12.9
4. Delivered Oil Price	¢/MM Btu	94.5	99.4	85.4	95.6	91.5
5. Efficiency of Oil Use	% realized	75.0	75.0	75.0	75.0	75.0
6. Cost of Realized Heat:						
a. Fuel	¢/MM Btu	126.0	132.5	113.9	127.5	122.0
b. Burner	¢/MM Btu	33.0	30.0	39.0	25.0	32.0
c. Total	¢/MM Btu	159.0	162.5	152.9	152.5	154.0
7. Efficiency of Gas Use	% realized	78.0	78.0	78.0	78.0	78.0
8. Value of Delivered Gas	¢/MM Btu	124.0	126.8	119.3	119.0	120.1
9. *Delivery Costs for Gas*	¢/MM Btu	38.2	71.5	38.2	64.6	62.2
10. *Value of Gas:*						
11. Less Delivery Costs	¢/MM Btu	85.8	55.3	81.1	54.4	57.9
12. At Pipeline Entry	¢/MM Btu	78.7	47.5	73.1	47.9	51.0
13. At Wellhead						
14. 16.4 psia	¢/Mcf	84.6	52.1	80.2	52.4	55.8
15. 14.65 psia	¢/Mcf	75.6	46.6	71.6	46.8	49.8

[fol. 392] EXHIBIT No. 5



[fol. 393] EXHIBIT No. 6

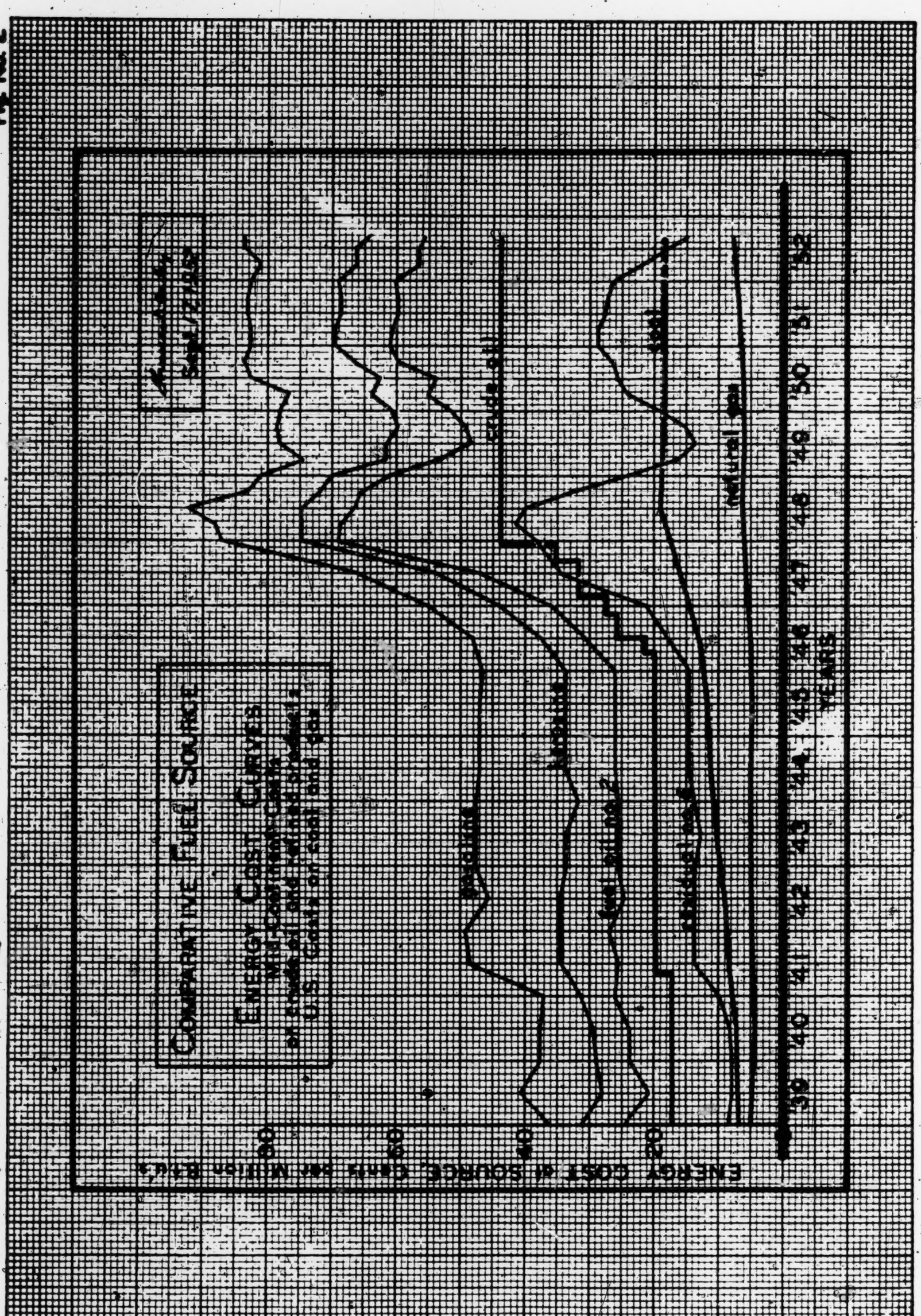
TABLE 1—COMPARATIVE FUEL SOURCE COSTS

(September 3, 1952 Mid-Continent Costs)

	Gravity	Btu/lb.	Btu/gal.	Source Costs	
				Unit	MM Btu
Natural Gas	0.625	22,073[1]		8.06¢/mcf[2]	7.68¢
Gasoline	60°	20,260[3]	124,800	10.438¢/gal.	83.6¢
Kerosene	43°	19,830[3]	134,100	8.625¢/gal.	64.3¢
Fuel Oil No. 2	34°	19,560[3]	139,400	7.750¢/gal.	55.6¢
Butane	112°	21,040[3]	101,940	3.886¢/gal.	38.1¢
Crude Oil	35°	19,590[3]	138,800	$2.55/bbl.	43.7¢
Residual No. 6	12°	18,640[3]	153,200	$0.95/bbl.	14.8¢
Coal		13,200		$4.87/ton[2]	18.4¢

1. Equivalent to 1,050 B.t.u. per cu. ft.—weight 47.57 lb./mcf.
2. Estimated United States average for September 3, 1952.
3. U. S. Dept. of Commerce Bureau of Standards Misc. Pub. 97.

[fol. 394] EXHIBIT No. 7



[fol. 395]

EXHIBIT No. 10

BASIC ENERGY EQUIVALENTS

(Natural Gas, Crude Oil and Coal)*

5.5546 Mcf (cost 44.769¢) = 1 Bbl. (cost $2.55)
1,000 Mcf (cost $80.60) = 180.11 Bbls. (cost $459.28)
25.1424 Mcf (cost $2.03) = 1 Ton (cost $4.87)
1,000 Mcf (cost $80.60) = 39.773 Tons (cost $193.70)
1 Ton (cost $4.87) = 4.528 Bbls. (cost $11.55)

NOTE: Based on specific gravities, B. t. u.-per-pound energy content, and source costs listed for natural gas, crude oil and coal in Table 1.

EXHIBIT No. 11

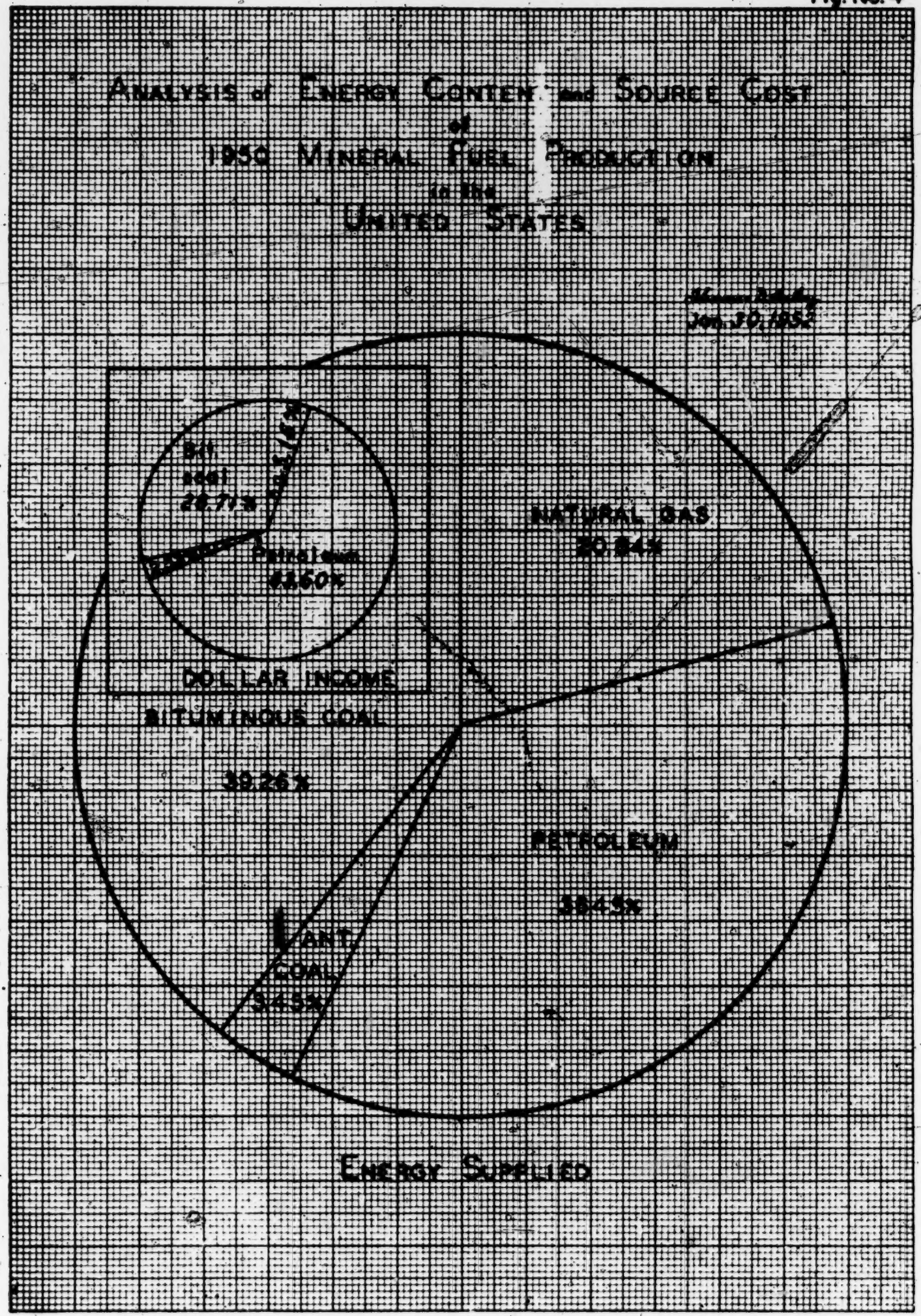
TABLE 8—ANALYSIS OF ENERGY CONTENT AND SOURCE COST OF 1950 MINERAL FUEL PRODUCTION IN THE UNITED STATES

	Volume[1] Produced	Heating Value Btu/#	Energy Content MMMM Btu	Total Cost[2] MM $	% of Total	
					Heat Content	Dollar Cost
Natural Gas	6,892,678	22,073[3]	7,237	449	20.84%	5.16%
Petroleum[4]	2,171,187	19,590[5]	12,658	5,537	36.45%	63.60%
Ant. Coal	44,094	13,600	1,199	220	3.45%	2.53%
Bit. Coal	516,311	13,200	13,630	2,499	39.26%	28.71%
Totals	.....	.....	34,724	8,705	.....	.....

1. Volume listed in MMcf, M Bbls., and M Tons for natural gas, petroleum and coal, respectively.
2. Using 1950 unit source costs shown in Table 2.
3. Equivalent to 1,050 Btu/cu. ft. 0.625 gravity natural gas.
4. Includes 1,943,776,000 barrels of crude oil and 227,411,000 barrels of natural-gas liquids.
5. Equivalent to 5,829,750 Btu/bbl. 35° API gravity crude oil.

[fol. 396] EXHIBIT No. 12

Fig. No. 4



[fol. 397] **EXHIBIT No. 13**

TABLE 3—COMPARATIVE FUEL PRICES IN DETROIT, MICHIGAN, USING SEPTEMBER 3, 1952, MID-CONTINENT SOURCE COSTS AND EL DORADO, KANSAS, TO DETROIT TRANSPORTATION RATES

	#/MM Btu	Transportation Rates		Wholesale Cost/MM Btu	
		Per 100 Lbs.	Per MM Btu	Source	Detroit
Natural Gas[1]	53.42	25.12¢[2]	13.42¢	12.30¢	25.7¢
Gasoline	49.36	31.69¢[2]a	15.64¢	83.6¢	99.2¢
Kerosene	50.43	28.88¢[2]a	14.56¢	64.3¢	78.9¢
		103.05¢	51.97¢		116.3¢
Fuel Oil No. 2	51.12	27.39¢[2]a	14.00¢	55.6¢	69.6¢
		86.47¢	44.20¢		99.8¢
Butane	47.53	44.72¢[2]a	21.25¢	38.1¢	59.3¢
		135.03¢	64.18¢		102.3¢
Crude Oil	51.05	17.81¢[2]	9.09¢	43.7¢	52.8¢
Residual No. 6	53.65	86.47¢	46.39¢	14.8¢	61.2¢
Coal (lump)[3]	71.43	20.90¢	14.93¢	25.89¢	40.8¢
(screenings)[4]	74.08	20.90¢	15.48¢	17.13¢	32.6¢

1. For 0.71376 gravity 1,017, B.t.u. per cubic foot natural gas produced in the Kansas-Hugoton Field—well head cost 14.0 cents per M.c.f. on a 16.4 psia pressure base—average transportation rate received by Panhandle Eastern Pipe Line Company in 1950 on natural gas transported and sold to other gas utilities.

2. Pipe line (a—estimated); others rail.

3. For a 14,000 B.t.u. per lb. Pike County, Kentucky bituminous coal—average mine cost $7.25 per ton—railroad shipping charges from Pikeville, Ky. to Detroit $4.18 per ton.

4. For a 13,500 B.t.u. per lb. Pike County, Kentucky bituminous coal—average mine cost $4.625 per ton—railroad shipping charges from Pikeville, Ky. to Detroit $4.18 per ton.

[fol. 398] EXHIBIT No. 14

TABLE 4—COMPARATIVE FUEL PRICES IN KANSAS CITY, MISSOURI, USING SEPTEMBER 3, 1952 MID-CONTINENT SOURCE COSTS AND EL DORADO, KANSAS, TO KANSAS CITY TRANSPORTATION RATES

	#/MM Btu	Transportation Rates		Wholesale Cost/MM Btu	
		Per 100 Lbs.	Per MM Btu	Source	Kansas City
Natural Gas[1]	53.42	13.42¢[2]	7.17¢	12.30¢	19.5¢
Gasoline	49.36	10.82¢[2]	5.34¢	83.6¢	88.9¢
Kerosene	50.43	9.86¢[2]	4.97¢	64.3¢	69.3¢
		22.51¢	11.35¢		75.7¢
Fuel Oil No. 2	51.12	9.35¢[2]	4.78¢	55.6¢	60.4¢
		22.51¢	11.51¢		67.1¢
Butane	47.53	16.22¢[2]	7.71¢	38.1¢	45.8¢
		45.01¢	21.39¢		59.5¢
Crude Oil	51.05	10.42¢[2]	5.32¢	43.7¢	49.0¢
Residual No. 6	53.65	22.51¢	12.08¢	14.8¢	26.9¢
Coal (lump)[3]	83.33	13.25¢	11.04¢	20.83¢	31.9¢
(slack)[4]	86.96	10.37¢	9.00¢	17.39¢	26.4¢

1. For 0.71376 gravity 1,017 B.t.u. per cubic foot natural gas produced in the Kansas-Hugoton Field—well head cost 14.0 cents per M.c.f. on a 16.4 psia pressure base—average transportation rate received by Cities Service Gas Company in 1950 on natural gas transported and sold to other gas utilities.

2. Pipe line; others rail.

3. For a 12,000 B.t.u. per lb. Linn County, Kansas bituminous coal—average mine cost $5.00 per ton—railroad shipping charges from Pleasanton, Kansas to Kansas City, Mo. $2.65 per ton.

4. For an 11,500 B.t.u. per lb. Linn County, Kansas bituminous coal—average mine cost $4.00 per ton—railroad shipping charges from Pleasanton, Kansas to K. C., Mo., $2.07 per ton.

[fol. 399] EXHIBIT No. 15

TABLE 5—COMPARATIVE FUEL PRICES IN OMAHA, NEBRASKA, USING SEPTEMBER 3, 1952 MID-CONTINENT SOURCE COSTS AND EL DORADO, KANSAS TO OMAHA TRANSPORTATION RATES

	#/MM Btu	Transportation Rates		Wholesale Cost/MM Btu	
		Per 100 Lbs.	Per MM Btu	Source	Omaha
Natural Gas[1]	53.42	17.62¢[2]	9.41¢	12.30¢	21.7¢
Gasoline	49.36	16.23¢[2]	8.01¢	83.6¢	91.6¢
Kerosene	50.43	14.79¢[2]	7.46¢	64.3¢	71.8¢
		45.60¢	23.00¢		87.3¢
Fuel Oil No. 2	51.12	14.03¢[2]	7.17¢	55.6¢	62.8¢
		36.72¢	18.77¢		74.4¢
Butane	47.53	20.64¢[2a]	9.81¢	38.1¢	47.9¢
		59.23¢	28.15¢		66.3¢
Crude Oil	51.05	11.09¢[2a]	5.66¢	43.7¢	49.4¢
		36.72¢	18.75¢		62.5¢
Residual No. 6	53.65	36.72¢	19.70¢	14.8¢	34.5¢
Coal (lump)[3]	83.33	20.00¢	16.67¢	20.71¢	37.4¢
(slack)[4]	86.96	17.45¢	15.17¢	17.39¢	32.6¢

1. For 0.71376 gravity 1,017 B.t.u. per cubic foot natural gas produced in the Kansas-Hugoton Field—well head cost 14.0 cents per M.c.f. on a 16.4 psia pressure base—average transportation rate received by Northern Natural Gas Company in 1950 on natural gas transported and sold to other gas utilities.

2. Pipe line (a—estimated); others rail.

3. For a 12,000 B.t.u. per lb. Linn County, Kansas bituminous coal—average mine cost $4.97 per ton—railroad shipping charges from Pleasanton, Kansas to Omaha $4.00 per ton.

4. For an 11,500 B.t.u. per lb. Linn County, Kansas bituminous coal—average mine cost $4.00 per ton—railroad shipping charges from Pleasanton, Kansas to Omaha $3.49 per ton.

[fol. 400] EXHIBIT No. 16

TABLE 6—COMPARATIVE FUEL PRICES IN MINNEAPOLIS, MINNESOTA, USING SEPTEMBER 3, 1952, MID-CONTINENT SOURCE COSTS AND EL DORADO, KANSAS, TO MINNEAPOLIS TRANSPORTATION RATES

	#/MM Btu	Transportation Rates		Wholesale Cost/MM Btu	
		Per 100 Lbs.	Per MM Btu	Source	Minneapolis
Natural Gas[1]	53.42	17.62¢[2]	9.41¢	12.30¢	21.7¢
Gasoline	49.36	22.42¢[2]	11.07¢	83.6¢	94.7¢
Kerosene	50.43	20.43¢[2]	10.30¢	64.3¢	74.6¢
		59.23¢	29.87¢		94.2¢
Fuel Oil No. 2	51.12	19.37¢[2]	9.90¢	55.6¢	65.5¢
		47.38¢	24.22¢		79.8¢
Butane	47.53	30.96¢[2a]	14.71¢	38.1¢	52.8¢
		71.07¢	33.78¢		71.9¢
Crude Oil	51.05	47.38¢	24.19¢	43.7¢	67.9¢
Residual No. 6	53.65	47.38¢	25.42¢	14.8¢	40.2¢
Coal (lump)[3]	71.43	35.20¢	25.14¢	25.89¢	51.0¢
(screenings)[4]	74.08	35.20¢	26.07¢	17.13¢	43.2¢

1. For 0.71376 gravity 1,017 B.t.u. per cubic foot natural gas produced in the Kansas-Hugoton Field—well head cost 14.0 cents per M.c.f. on a 16.4 psia pressure base—average transportation rate received by Northern Natural Gas Company in 1950 on natural gas transported and sold to other gas utilities.

2. Pipe line (a—estimated); others rail.

3. For a 14,000 B.t.u. per lb. Pike County, Kentucky bituminous coal—average mine cost $7.25 per ton—railroad shipping charges from Pikeville, Ky. to Minneapolis $7.04 per ton.

4. For a 13,500 B.t.u. per lb. Pike County, Kentucky bituminous coal—average mine cost $4.625 per ton—railroad shipping charges from Pikeville, Ky. to Minneapolis $7.04 per ton.

[fol. 401] EXHIBIT No. 17

TABLE 7—COMPARATIVE FUEL PRICES IN DENVER, COLORADO, USING SEPTEMBER 3, 1952, MID-CONTINENT SOURCE COSTS AND EL DORADO, KANSAS, TO DENVER TRANSPORTATION RATES

	#/MM Btu	Transportation Rates		Wholesale Cost/MM Btu	
		Per 100 Lbs.	Per MM Btu	Source	Denver
Natural Gas[1]	53.42	12.28¢[2]	6.56¢	12.30¢	18.9¢
Gasoline	49.36	58.04¢	28.65¢	83.6¢	112.2¢
Kerosene	50.43	58.04¢	29.27¢	64.3¢	93.6¢
Fuel Oil No. 2	51.12	58.04¢	29.67¢	55.6¢	85.3¢
Butane	47.53	12.78¢[2a]	6.07¢	38.1¢	44.2¢
		82.92¢	39.41¢		77.5¢
Crude Oil	51.05	71.07¢	36.28¢	43.7¢	80.0¢
Residual No. 6	53.65	58.04¢	31.14¢	14.8¢	45.9¢
Coal (lump)[3]	74.07	13.25¢	9.81¢	24.35¢	34.2¢
(slack)[4]	76.92	12.50¢	9.62¢	17.50¢	27.1¢

1. For 0.71376 gravity 1,017 B.t.u. per cubic foot natural gas produced in the Kansas-Hugoton Field—well head cost 14.0 cents per M.c.f. on a 16.4 psia pressure base—average transportation rate received by Colorado Interstate Gas Company in 1950 on natural gas transported and sold to other gas utilities.

2. Pipe line (a—estimated); others rail.

3. For a 13,500 B.t.u. per lb. Routt County, Colorado bituminous coal—average mine cost $6.575 per ton—railroad shipping charges from Routt County to Denver $2.65 per ton.

4. For a 13,000 B.t.u. per lb. Routt County, Colorado bituminous coal—average mine cost $4.55 per ton—railroad shipping charges from Routt County to Denver $2.50 per ton.

[fol. 402] EXHIBIT No. 18

TABLE 9—COMPARATIVE WHOLESALE FUEL COSTS USING SEPTEMBER 3, 1952, MID-CONTINENT SOURCE COSTS AND TRANSPORTATION RATES FROM KANSAS

(Summary of costs listed in Tables 3 to 7)

	Detroit	Kansas City	Omaha	Minne-apolis	Denver
Natural Gas[1]	25.7	19.5	21.7	21.7	18.9
Gasoline	99.2	88.9	91.6	94.7	112.2
Kerosene	78.9	69.3	71.8	74.6	93.6
Fuel Oil No. 2	69.6	60.4	62.8	65.5	85.3
Butane	59.3	45.8	47.9	52.8	44.2
Crude	52.8	49.0	49.4	67.9	80.0
Residual No. 6	61.2	26.9	34.5	40.2	45.9
Coal (lump)	40.8[2]	31.9[3]	37.4[3]	51.0[2]	34.2[4]
(slack)	32.6[2a]	26.4[3]	32.6[3]	43.2[2a]	27.1[4]

1. For 0.71376 gravity 1,017 B.t.u. per cubic foot natural gas produced in the Kansas-Hugoton Field—well head cost 14.0 cents per Mcf on a 16.4 psia pressure base at 60°F.
2. Pike County, Kentucky bituminous coal. (a—screenings)
3. Linn County, Kansas bituminous coal.
4. Routt County, Colorado bituminous coal.

TABLE 10—CALCULATION OF WELLHEAD VALUE OF KANSAS HUGOTON FIELD NATURAL GAS BASED ON DELIVERED WHOLESALE COST OF COMPETITIVE COALS

	Detroit		Kansas City		Omaha		Minneapolis		Denver	
	Lump	Scrng.	Lump	Slack	Lump	Slack	Lump	Scrng.	Lump	Slack
Source Cost, ¢/MM Btu	25.89	17.13	20.83	17.39	20.71	17.39	25.89	17.13	24.35	17.50
Del. Wholesale Cost, ¢/MM Btu	40.8	32.6	31.9	26.4	37.4	32.6	51.0	43.2	34.2	27.1
Efficiency of Coal Use	62.5%		62.5%		62.5%		62.5%		62.5%	
Cost, Cents per Effective MM Btu	65.3	52.2	51.0	42.2	59.8	52.2	81.6	69.1	54.7	43.4
Efficiency of Natural Gas Use	77.5%		77.5%		77.5%		77.5%		77.5%	
Del. Wholesale Equivalent Value of Gas, ¢/MM Btu	50.6	40.4	39.6	32.7	46.4	40.4	63.2	53.6	42.4	33.6
Gas Transmission Cost, ¢/MM Btu	13.42¢		7.17¢		9.41¢		9.41¢		6.56¢	
Added Cost of Gas Used by Company	3.03¢	2.05¢	0.77¢	0.56¢	2.06¢	1.64¢	3.22¢	2.55¢	0.70¢	0.50¢
Kansas Hugoton WELLHEAD VALUE:										
Cents per MM Btu	*34.2*	24.9	*31.7*	25.0	*34.9*	29.4	*50.6*	41.6	*35.1*	26.5
Cents per Mcf 14.65 psia & 60°F	*34.8*	25.4	*32.2*	25.4	*35.5*	29.9	*51.5*	42.3	*35.7*	27.0

Average using Lump ..... 37.3¢/MM Btu *or* 37.9¢/Mcf @ 14.65 psia & 60°F.
Average using Slack ..... 29.5¢/MM Btu *or* 30.0¢/Mcf @ 14.65 psia & 60°F.
Over-all Avg. using Lump & Slk. ..... 33.4¢/MM Btu *or* 34.0¢/Mcf @ 14.65 psia & 60°F.
* Adj. Over-all Avg. Lump & Slk. ..... 31.0¢/MM Btu *or* 31.5¢/Mcf @ 14.65 psia & 60°F.

NOTE: To adjust average 20.42¢ source cost down to U. S. average of 18.4¢/MM Btu.

[fol. 405] ABSTRACT OF EXHIBIT 25

This is a photocopy of the Federal Power Commission Gas Tariff, Original Volume No. 1 of Permian Basin Pipeline Company, filed with the Federal Power Commission, together with the contract between Northern Natural Gas Company, buyer, and Permian Basin Pipeline Company, seller, approving and accepting the proposed tariff.

ABSTRACT OF EXHIBIT 26

This is a map showing the approximate limits of production of the Kansas portion of the Hugoton Field.

ABSTRACT OF EXHIBIT 27

This is a map of Grant County, Kansas, showing the range of well head royalty prices paid in August 1952. Prices ranged from 8 cents to over 11 cents.

ABSTRACT OF EXHIBIT 28

This is a map of Seward County, Kansas, showing the range of well head royalty prices from 8 cents to 13.2 cents, paid November, 1951 through August, 1952.

[fol. 406] EXHIBIT No. 29

ADDITIONAL INFORMATION* PREPARED IN CONNECTION WITH EXHIBITS 27 AND 28 BY OLIVER S. BROWN.

GRANT COUNTY

Well Location	Date of Lease	Date First Production	Wellhead Price
Sec. 3-27-35	10- 1-35	Oct. 1950	8 cents
Sec. 24-27-36	7-28-42	Oct. 1947	8
Sec. 28-28-36	6-29-35	1938	10
Sec. 17-28-35	6-26-35	Feb. 1947	8
Sec. 30-28-36	6-29-35	July 1946	10
Sec. 33-28-35	6-29-35	1946	10
Sec. 4-29-35	11-23-41	1945	10
Sec. 13-29-35	3- 3-43	1945	8
Sec. 22-29-35	4- 4-37	1941	8
Sec. 19-27-37	4-10-40	1950	11
Sec. 25-27-38	4-21-41	1951	8
Sec. 31-27-37	4-10-40	1950	11
Sec. 13-28-38	10-16-41	1950	11 plus
Sec. 32-28-37	4-27-42	Sept. 1951	11.007
Sec. 5-29-37	9- 9-41	Jan. 1952	11.007
Sec. 1-29-38	9-20-41	1951	11 plus
Sec. 12-29-38	?	1951	8
Sec. 7-30-38	?	1950	11 plus
Sec. 25-30-37	12-23-35	1946	8.323 and 9
Sec. 27-29-36	7-17-45	1948	8

SEWARD COUNTY

Well Location	Date of Lease	Date First Production	Aug. 1952 Wellhead Price
Sec. 35-34-34	12-31-42	Nov. 1944	13.2 cents
Sec. 2,3,4-35-34	2-19-18	1930-1931	8
Sec. 9,10-35-34	2- 5-43	1944	13.2

KEARNY COUNTY

Well Location	Date of Lease	Date First Production	Aug. 1952 Wellhead Price
Sec. 33-26-36	5-10-48	Sept. 1949	8 and 11

* This information requested by Commissioner Stiles, to be prepared by the witness Brown at the time of cross-examination.

[fol. 407] EXHIBIT No. 49

CITIES SERVICE GAS COMPANY GAS RESERVE HISTORY BY DEVELOPMENT PERIODS (Gas Figures in Billion Cubic Feet.)

Period	*Reserve Added During Period*
1905 and before	238
1906	0
1907-15	402
1916-20	228
1921-24	115
1925-34	2,704
1935-40	257
1941-45	3,254
1946-51	4,571

[fol. 408] IN THE SUPREME COURT OF THE STATE OF KANSAS

Consolidated Counter Abstract of Record

Volume II

[fol. 409] INDEX TO VOLUME II

		FOLIO
A.	Proceedings in District Court	419*
B.	Proceedings Before Commission, Docket No. 35,154-C	420
C.	Testimony of Petitioners' Witnesses, Docket No. 35,154-C	423
	Testimony of T. A. Morgan:	
	Direct, October 18, 1948	423
	Cross-examination, October 18, 1948	425
	Testimony of Raymond A. Ransom:	
	Direct, October 18, 1948	427
	Qualifications	427
	Characteristics of gas in Hugoton field	430
	Qualities of fuel which influence purchasers of fuel,	431
	Computation of value of natural gas in consuming market	432
	Exhibit No. 7	433
	Why calculation of value must be based on price of competitive fuels	435
	Why the residential heating market is used as basis	435
	Value of gas at the wellhead in Hugoton field based on wholesale rates of gas in other fields,	440
	Cause of present low prices of natural gas in Hugoton field	443
	[fol. 410] Relationship between price of natural gas at the wellhead and conservation of natural gas as a natural resource	443
	Waste of gas	444
	Dedicated acreage in Hugoton field	448
	Estimated production of natural gas in Hugoton field	450
	Exhibit No. 9	450
	Cross-examination, December 13, 1948	459
	Essentials for financing gas pipeline projects	460
	Reserves in the Kansas Hugoton field	465
	Hugoton field one common source of supply	465

* These numbers refer to the folio numbers in brackets, e.g., [fol. 100], appearing at the beginning of lines and indicate pages of original transcript of record, as filed and numbered in the office of the Clerk of the U. S. Supreme Court.

	FOLIO
Competitive fuel prices frequently used as basis for determining sale price of gas	465
Supply and demand in early history of Hugoton field	466
Market study of demand for gas	471
[fol. 411] Testimony of Henry Keplinger:	
Direct, October 19, 1948	474
Qualifications	474
Physical characteristics of Hugoton field	475
Hugoton field is common source of supply	476
Description of natural gas in place	476
Reservoir pressures	477
Gas drainage in Hugoton field	477
Reserves	478
Factors influencing decisions to drill	479
Current supply and demand	480
Transportation of gas	480
Marketing oil and gas from isolated wells	481
Difficulty in securing pipeline connections	483
Impracticability of building substantial number of competing pipelines	483
Exhibit No. 16 *facing*	485
Relationship between prices for gas and economic conditions	487
Price inequities in Hugoton field	487
Importance of natural gas as an irreplaceable resource	488
Relationship between price of gas and conservation	489
Production in excess of amount of gas underlying lease	489
Cheap gas and the practice of blowing wells	489
Relationship between price of gas and abandonment of wells	491
Price of gas at the wellhead in other areas	491
Price inequities in Hugoton field	492
Market differences in other fuels	492
Wells presently unconnected	495
Effect on development of increase in field price	499
[fol. 412] Kind of price necessary for ultimate maximum development of field	500
Oil and gas reserves in Kansas	500
Cross-examination, December 14, 1948	501
Drainage of gas in Hugoton field	501
Waste of gas in well cleaning	502
Reserve necessary for pipeline	503
Testimony of Dr. John Ise:	
Direct, October 19, 1948	506
Importance of conservation	507
Natural gas is an irreplaceable natural resource	508
Relationship between price and use	509

FOLIO

Establishment of competitive market prices 512
Distinguishing characteristics of market for gas 512
Gas wasted more than other resources 513
Relative position of buyers and sellers in gas market 518
Prices fixed by pipeline purchasers 519
Natural gas most easily wasted resource 520
Higher price stimulates development of substitutes 520
Objective standards for efficiency of use 521
Factors to be taken into consideration in determining price that will influence proper conservation 522
Testimony of Colin C. Rae:
Direct, October 18, 1948 523
Qualifications 523
Terms of purchase in Hugoton field 523
[fol. 413] Price of gas under private contract for industrial use in Kansas is based on comparative price of other fuels 524
Field price of gas now fixed by pipeline companies, ... 525
Cross-examination, October 18, 1948 526
Testimony of Dr. Eugene A. Stephenson:
Direct, October 19-20, 1948 528
Qualifications 528
Estimates of gas reserves 530
Special studies of Hugoton field 530
Advantages of using gas 531
Value of wellhead gas in Hugoton field 533
Testimony of William Broadhurst:
Direct, October 20, 1948 537
Differing prices for gas in Hugoton field 538
Proration alone does not protect correlative rights, ... 539
Effect of uniform price 540
Relative bargaining position of sellers and buyers of gas 541
No market price in Hugoton field 542
Cross-examination, October 20, 1948 543
Testimony of C. E. Waite:
Direct, October 20, 1948 546
Occupation and experience 546
Unconnected wells 547
Factors entering into decision to accept fixed price contracts 548
Loss of pressure on unconnected wells 549
Difficulties in securing connections 549
Unconnected well having an allowable 551
Relative bargaining positions 552

FOLIO

Testimony of Walter Kuhn:
Direct, October 20-21, 1948 555
Experience of witness 555
[fol. 414] Unconnected wells 555
Sale of wells to pipeline companies 557
Differing prices to same landowner 562
Bargaining position of buyers and sellers of gas 562
Testimony of Conrad Ohm:
Direct, October 21, 1948 563
Experience of witness and his company's interests, ... 563
Seven completed wells unconnected from 1929-1936 563
Impossibility of obtaining connections 565
Seven additional completed wells unconnected for nine years 565
The Harrington deal 568
Warner well unconnected eleven years 569
Comparative bargaining positions 571
Prices of gas 571
Position of small producer and landowner 572
Effect of uniform price 573
Testimony of Dan C. Sullivan:
Direct, October 21, 1948 573
[fol. 415] Testimony of John Hanley:
Direct, October 21, 1948 577
Testimony of C. H. Hinton:
Direct, October 21, 1948 586
Exhibit No. 53 587
Testimony of Thomas Creigh, Jr.:
Direct, October 21, 1948 591
G. Counter Abstract of Additional Exhibits, Docket No. 35,154-C 607
(See Index of Exhibits)
H. Other Natural Gas Purchase Contracts, Docket No. 35,154-C 634
I. Certificate 635

[fol. 416] INDEX OF EXHIBITS, DOCKET No. 34,154-C

EXHIBIT NO. FOLIO

1 Basic proration order for Hugoton gas field 423
2 Hugoton field nominations October 1, 1948-March 31, 1949 423
3 Gas proration order and report for Hugoton field, October, 1948 423
7 Calculation of wellhead value of Hugoton gas 433
8 Map of dedicated acreages within Hugoton field boundaries 609
9 Estimated production of natural gas from Hugoton gas field, by years 450
15 Map showing connected wells in Hugoton field in August, 1948 ..... 611, 476

EXHIBIT NO.		FOLIO
16	Map of dedicated acreage in Hugoton field	485
17	Index of wholesale commodity prices	612, 487
19	Average composition of natural gas in Hugoton field	614
20	Calculated composition of residual natural gas after removal of propane and heavier hydrocarbons	614
21	Computation of weight of Hugoton gas per thousand cubic feet	614
[fol. 417] 22	Approximate relation between gravity of fuel oils and their Btu values	614
23	Relation between heating value of coal, fuel oil and gas	614
24	Chart showing relation of gas composition to the Btu content	614
26	Gas purchase contract between Pioneer Petroleum Company and Panhandle Eastern Pipe Line Co.	615, 547
27	Wartime gas purchase contract between Pioneer Petroleum Company and Northern Natural Gas Company covering Williams well	551
28	Gas purchase contract between Pioneer Petroleum Company and Panhandle Eastern Pipe Line Company on Williams well	551
29	Correspondence of Pioneer Petroleum Company in its attempts to secure connections	552
30	Gas purchase contract between Argus Natural Gas Company and Kuhn Brothers and others on Warner No. 1,	620, 557
31	Contract of sale of Nix well by Kuhn Brothers to Panhandle Eastern Pipe Line Company	621, 558
32	Contract of sale of Youngren well by Kuhn Brothers to Panhandle Eastern Pipe Line Co.	622, 558
33	Letters from Panhandle Eastern Pipe Line Company to Mr. Walter Kuhn, dated November 23, 1938, offering to buy well and refusing to buy gas	558
34	Wartime gas purchase contract between Kuhn Brothers and others and Panhandle Eastern Pipe Line Company, on Curtis well	560
35	Gas purchase contract between Walter Kuhn and Northern Natural Gas Company, covering Carpenter wells	562, 625
36	Gas purchase contract between Trees Oil Company and others and Panhandle Eastern Pipe Line Co.	564, 626
37	Correspondence of Trees Oil Company with Panhandle Eastern Pipe Line Company regarding connection of wells	566
38	Gas purchase contract between D. D. Harrington and Panhandle Eastern Pipe Line Company	569
39	Gas purchase contract between Trees Oil Company and others and Northern Natural Gas Company	571
[fol. 418] 50	Gas purchase contract of Colorado Interstate Gas Company	633, 577
53	Gas purchase contracts of Panhandle Eastern Pipe Line Company	586

[fol. 419] IN THE SUPREME COURT OF THE STATE OF KANSAS

[Title omitted]

Consolidated Counter Abstract of Record

Volume II

A. PROCEEDINGS IN DISTRICT COURT

The State Corporation Commission, in the proceedings sought to be reviewed herein, took judicial notice of its own public records in Docket No. 35,154-C (C-1868), Conservation Division (Such docket had become the subject matter of review proceedings ultimately determined before the Supreme Court of Kansas in *Kansas-Nebraska Natural Gas Co.* v. *State Corporation Commission,* 190 Kan. 722, 222 P. 2d 704 and 170 Kan. 341, 225 P. 2d 1054). There was filed in the district court in each of these proceedings the printed "Supplemental Counter Abstract of the Record," filed by the State Corporation Commission with the Supreme Court of Kansas in said prior review proceedings. Such filing constituted a supplemental counter abstract of record in each of these causes and is herein reproduced. (Supplemental Counter Abstract of Record in trial court, pages 1 and 2.)

[fol. 420] B. PROCEEDINGS BEFORE COMMISSION,

DOCKET NO. 34,154-C

* * * * * * *

The following companies appeared by and through their respective attorneys, presented arguments and otherwise [fol. 421] participated in this hearing: Kansas Power and Light Company, Western Natural Gas Company, Columbian Fuel Corporation, Panhandle Eastern Pipe Line Company, Kansas-Nebraska Natural Gas Company, Northern Natural Gas Company, Cities Service Gas Company. The latter four companies filed formal petitions to intervene and filed protests in the proceeding (A. 6-38).

* * * * * * *

[fol. 423] C. Counter Abstract of Petitioners' Evidence Introduced Before the Kansas State Corporation Commission

October 18 through 22, 1948, and December 13 through 15, 1948, in

Docket 35,154-C

Testimony of T. A. Morgan.

Direction examination.

By Mr. Fleeson:

(October 18, 1948)

My name is T. A. Morgan. I live in Wichita, Kansas. I am Director of the Conservation Division of the Kansas State Corporation Commission and have held that position about 14 years. The Hugoton gas field located in Kansas is embraced in my supervision as Director.

Exhibit No. 1 is the basic proration order of the State Corporation Commission of Kansas for the Hugoton field, as amended (set out in A. 241).*

Exhibit No. 2 is the Hugoton field nominations made by various purchasers covering the period October 1, 1948, to March 31, 1949 (set out in A. 273).

Exhibit No. 3 is the most recent gas proration order and report for the Hugoton field, which covers the month of October, 1948 (abstracted at A. 274, C. A. 199).

The pressures in this report were taken last July and August. The virgin pressure of the Kansas Hugoton field was somewhere between 425 and 440. Our report does not show any unconnected wells, but there are close to 300 unconnected wells in the field. The wells I refer to are wells of Magnolia and Stanolind, which will be connected to Cities Service. I am quite sure that the Kuhn Brothers' [fol. 424] well will be connected in the near future. It has been unconnected for a number of years; I do not remember how many. (T. 5-12.)

* * * * * * *

---

* The Consolidated Abstract of Appellants is abbreviated herein as "A." The Transcript is referred to as "T." This abstract as "C. A."

The amount of gas which has been taken out of the Kansas portion of the Hugoton field, as of July 31, 1948, is 855,902,826 Mcf. That is the gas that was marketed and does not take into consideration any blowing of wells and cleaning out of wells. Over the same period of time 401,057,151 Mcf were taken out of the Oklahoma section of the Hugoton field, and 106,361,702 Mcf was taken out of the Texas portion of the Hugoton field. The discovery well in the Kansas portion of the Hugoton field was in 1922 and the figures relate to gas which was taken out from that time to the present time. The total amount of the gas taken out of the Hugoton field in the three states is 1,363,321,679 Mcf. These figures are taken from the Statistical Guide, Tulsa, and are usually accurate. The figures with reference to Kansas are from our own reports. The Hugoton field is one of the very largest gas fields in the world, if not the largest. (T. 17.)

[fol. 425] Cross examination.

By Mr. Adams:

The proration order in the Hugoton gas field has only to do with the gas production in the producing horizon that the Hugoton field is in. It is from about 2,600 to 2,900 feet.

* * * * * * *

Cross examination.

By Mr. Shaw:

When you have two producing horizons they are in different fields.

* * * * * * *

[fol. 426] By Chairman Robertson:

There was no basic order effective prior to April 1st, 1944, on account of injunctions filed against the Commission's orders. Every proration order that this Commission has ever attempted to write for the proration of the Hugoton field was enjoined in the courts prior to that time. (T. 28-29.) Witness excused. (T. 29.)

[fol. 427] Testimony of RAYMOND A. RANSOM.

Direct examination.

By Mr. Fleeson:

(October 18, 1948)

Qualifications

My name is Raymond A. Ransom. My profession is that of consulting engineer. My residence is at Arlington, Virginia, and I maintain my office at 1025 Connecticut Avenue, Washington, D. C.

I am a graduate of the College of Engineering, Carnegie Institute of Technology, Pittsburgh, Pennsylvania, with the degree of Bachelor of Science in Electrical Engineering from that school, in 1928.

After graduation, I spent about one year with the Public Service Company of Colorado, in Denver, as a junior engineer in a training course in gas and electric public utility operation and management, and of this time, about two months were spent with Colorado-Wyoming Gas Company in connection with the engineering of a natural gas pipeline from Denver to Boulder and Fort Collins.

In July, 1929, I joined the Petroleum Division of Henry L. Doherty & Company, in New York City, which was then the engineering and management organization for the Cities Service Company.

During the time I was with the Doherty Company, which extended to November, 1935, practically all of my assignments were concerned with operating, management and engineering problems of the natural gas and natural gasoline industries in the fields of production, transportation, distribution and marketing.

The Cities Service Company properties were located in many places in the United States and Canada and, as a consequence, the experience I obtained was very broad, in that it was not limited to any one region or to any one type of operation in the industry.

[fol. 428] The assignments were not limited to existing operations, but included investigations and studies of proposed new projects in the United States, Canada, Central

and South America and Europe. Assignments included marketing studies in connection with introduction of natural gas into new communities and into communities changing over to natural gas from manufactured gas, as well as sales in existing markets, the design of new distribution systems and existing systems, design of pipeline systems, studies of gas fields, calculation of gas reserves, cost studies and gas rate design.

In November, 1935, I accepted a position in Washington with the Securities and Exchange Commission as Associate Utilities Engineer, in which capacity I was concerned with the early administration of the Public Utility Holding Company Act of 1935.

This work extended through August, 1936, during which time I prepared studies of several public utility holding company systems and of their operating and subsidiary companies and of various declarations and applications filed under the provisions of the act.

It was during this time that an action was commenced against a large holding company system to compel registration under the act. In this litigation, I was the senior engineer assigned to advise government counsel, Mr. Robert Jackson, who is now an Associate Justice on the Supreme Court, on matters relating to engineering and operations of public utilities, and to assist in the preparation of the stipulation of fact on the basis of which the case was tried. For a part of this time I was a student in the Graduate School of American University, specializing in economics.

In September, 1936, I accepted a position with Panhandle Eastern Pipe Line Company as engineer in the office of its president, in New York City. In this position [fol. 429] I acted as Assistant to the President, and coordinated the work of system planning and, in addition, made studies of many special technical problems involving gas flow in pipelines, dehydration of natural gas, cleaning of pipelines, acidizing of gas wells in the Texas Panhandle and Hugoton Fields, marketing studies, gas rates, cost studies, and negotiation of gas sales contracts. From March, 1942, to April, 1943, I was a member of the Board of Directors of Panhandle Eastern.

From September, 1942, to July, 1946, I was on military duty as an officer in the Ordnance Department of the Army.

* * * * * * *

Since July, 1946, I have been engaged in the practice of consulting engineer.

* * * * * * *

[fol. 430] I am a member of The American Gas Association, the National Association of Corrosion Engineers, the American Ordnance Association, and the Institute of Radio Engineers, and I am a licensed professional engineer in the States of New York and Illinois. (T. 30-36.)

Characteristics of gas in the Hugoton field

I have become familiar with the gas fields in the Southwest, including the Hugoton field in Southwest Kansas, as a result of my work with the Cities Service Gas Company and Panhandle Eastern Pipe Line Company, which obtain a major portion of their gas from the gas fields in that area, and I have, as consultant, had occasion to study them.

Gas from the Hugoton field is a mixture of hydrocarbon gas and nitrogen. In general, it is referred to as a "dry gas" since the heavier hydrocarbon gases which go to make [fol. 431] up natural gasoline and liquified petroleum gas are not present in large amounts. The natural gasoline content is approximately 0.3 gallons per Mcf. The nitrogen content of the gas will range from around 8 percent to a maximum of around 22 percent, but samples from most wells will show a nitrogen content of from 10 to 12 percent. The largest single component is methane, which usually constitutes 77 to 81 percent of the gas by volume. In general, the heating value of a cubic foot of Hugoton gas, at a temperature of 60 degrees Fahrenheit and an absolute pressure of 14.735 pounds per square inch, is slightly above 1,000 Btu per cubic foot, but samples containing large amounts of nitrogen have heating values which may be slightly below 900 Btu per cubic foot. (T. 36-38.)

Qualities of fuel which influence purchasers of fuel

Natural gas possesses many qualities which cause purchasers of fuels to prefer it to other fuels. It does not have to be stored on the consumer's premises, as does coal or oil. Its use is entirely automatic and for this reason it is most convenient. It is clean, in that it burns with little or no smoke and there are no ashes to remove. In industrial furnaces it is valuable because its use may be accurately controlled, so that products of uniform quality may be produced. Gas comes nearest to being the perfect fuel.

The relative importance of these general qualities of fuels to home owners who prefer gas as a heating fuel is disclosed by a survey made in 1945, which showed that 32½ percent preferred gas because it was cleanest; 22½ percent preferred gas because it was fully automatic; 11½ percent preferred gas because it was generally better; 10 percent preferred gas because there are no deliveries, while 7½ percent preferred gas because of its comfort. (T. 38-42.)

[fol. 432] Computation of value of natural gas in the consuming market

I have made a study of the value of natural gas in the Hugoton field, by comparing its value in the market place with the value of other fuels with which it competes. Exhibit 7 is the result of the study which I made.

Exhibit 7 is as follows:

EXHIBIT No. 7

WITNESS: R. A. Ransom

CALCULATION OF WELLHEAD VALUE OF HUGOTON GAS BASED ON PRICES OF COMPETITIVE FUELS

		Detroit	Kansas City	Minneapolis	Omaha	Denver
1.	Delivered price of coal per ton	$15.58	$10.82	$18.64	$12.50	$9.86
2.	Average heating value per ton—million Btu	28.0	25.0	28.0	25.0	19.6
3.	Delivered cost per million Btu	55.6¢	43.3¢	66.6¢	50.0¢	50.3¢
4.	Efficiency of use	55.0%	55.0%	55.0%	55.0%	55.0%
5.	Cost per effective million Btu	101.1¢	78.7¢	121.1¢	90.9¢	91.5¢
6.	Efficiency of gas use	78.0%	78.0%	78.0%	78.0%	78.0%
7.	Value of gas per million Btu for equal cost	78.9¢	61.4¢	94.5¢	70.9¢	71.4¢
8.	Distribution company margin on house heating gas	36.1¢	22.9¢	34.4¢	35.0¢	19.7¢
9.	Transmission company margin on house heating gas	22.3	17.6	20.8	20.8	19.5
10.	Total of distribution and transmission margins	58.4¢	40.5¢	55.2¢	55.8¢	39.2¢
	Wellhead value of gas based on coal:					
11.	Per million Btu	20.5¢	20.9¢	39.1¢	15.1¢	32.2¢
12.	Per Mcf at 16.4 psia	22.8¢	23.2¢	43.5¢	16.8¢	35.8¢
13.	Delivered price per gallon No. 2 fuel oil	14.45¢	12.68¢	14.12¢	13.00¢	14.00¢
14.	Heating value per gallon—thousand Btu	142	142	142	142	142
15.	Delivered cost per million Btu	101.8¢	89.3¢	99.4¢	91.5¢	98.6¢
16.	Efficiency of use	75.0%	75.0%	75.0%	75.0%	75.0%
17.	Cost per effective million Btu	135.8¢	119.1¢	132.5¢	122.0¢	131.5¢
18.	Efficiency of gas use	78.0%	78.0%	78.0%	78.0%	78.0%
19.	Value of gas per million Btu for equal cost	105.9¢	92.9¢	103.4¢	95.2¢	102.6¢
	Wellhead value of gas based on oil:					
20.	Per million Btu	47.5¢	52.4¢	48.2¢	39.4¢	63.4¢
21.	Per Mcf at 16.4 psia	52.8¢	58.3¢	53.6¢	43.8¢	70.5¢
22.	Average price per million Btu to consumer for house heating gas	.621	.459	.603	.609	.446

NOTE.—Detroit and Denver prices include three percent and Kansas City prices include two percent for sales taxes.

* * * * * * *

[fol. 435] Why calculation of value of gas must be based on price of competitive fuels.

A comparison with competitive fuels is necessary in order to establish the value of gas in the market place, since the natural gas is being sold in a regulated market. The competitive fuels, coal and oil, are being sold in an unregulated market, there are no governmental price regulations and there is competition between the sellers of such fuels. (T. 45-46.)

Why the residential heating market is used as basis

The gas utility business consists of sales of gas for cooking, water heating, some gas for refrigeration, and a few other miscellaneous uses, and for residential heating. Practically all gas customers use gas for cooking, because it is so superior to other fuels as regards convenience and cost. It is hardly considered a luxury; instead, it is thought of as a necessity. Some gas customers still use fuels other than gas for water heating, but the great majority of them feel that a gas-fired water heater is a necessity. After the gas requirement for cooking and water heating has been satisfied, the gas company comes into stronger competition with other fuels for the house-heating load. If gas for house heating costs more than competing fuels, the customer has to decide if he can afford to pay the [fol. 436] extra cost for the greater convenience, comfort and cleanliness of gas heat.

There is where the real competition between fuels begins and, since gas for house heating is what the economist calls the marginal use of gas—that is, the least attractive application—the value of gas is determined by this market. Values based on the value of gas for cooking or for residential water heating would be too high.

Values obtained on the basis of its use in industrial plants would also be too high. With the exception of its use for carbon black, natural gas has a very high value for industrial purposes. While the price that an industrial plant will pay for natural gas is not as high as that which might be paid by the home owner for house heating, the cost of gas to the industrial customer is much lower and

the annual load factor is much higher, so that the wellhead value we could obtain by this method would be higher than when used as house heating as a measure of value. (T. 46-47.)

* * * * * * *

[fol. 440] Value of gas at the wellhead in Hugoton field based on wholesale rates of gas in other fields

I made calculations of the value of Hugoton gas at the wellhead by other means. I made such calculation by comparing wholesale rates in the same market area of pipeline companies which obtain their gas from fields other than Hugoton. These calculations are based on the rates contained in published rate schedules and contracts covering sales of gas in Ohio to The East Ohio Gas Company.

Texas Eastern Transmission Corporation is currently making deliveries of natural gas to The East Ohio Gas Company under a contract rate which, on a 100 percent load factor basis, amounts to 25.9 cents per million Btu. Panhandle Eastern Pipe Line Company also sells to The East Ohio Gas Company under substantially the same conditions except that the price is 18.5 cents per million Btu, or 7.4 cents less than the price paid to Texas Eastern. The latter company obtains its natural gas supplies from fields in Northern Louisiana, Eastern Texas and the Gulf Coast area.

Both Texas Eastern and Panhandle Eastern are regulated as to rates under the Natural Gas Act, so an increase in cost of gas to Panhandle Eastern of 7.4 cents per Mcf [fol. 441] of 1,000 Btu gas or 8.2 cents per Mcf on a 16.4 measurement basis would do no more than equalize the selling price in Ohio by Panhandle Eastern in relation to the selling price of Texas Eastern. While the contracts show that East Ohio was willing to pay 25.9 cents to Texas Eastern, they do not prove that the same price would be paid to Panhandle Eastern. (T. 56.)

The Federal Power Commission dockets G-1010 and 1025 show that Panhandle Eastern and East Ohio actually signed a contract covering the delivery and sale of additional gas at a price of 25.9 cents per million Btu and that after Panhandle filed the rate it was suspended by the Federal

Power Commission by its order dated March 9, 1948. This new contract shows that the Panhandle gas is worth at least 25.9 cents per million Btu, since East Ohio is willing to pay such a price. This test is not one of absolute value, since both companies are selling in a regulated market. It does, however, reflect the higher values placed on natural gas in the area in which Texas Eastern obtains its supplies and the higher transmission costs of Texas Eastern as compared with Hugoton gas prices and Panhandle Eastern's transmission costs. It also shows that the buyer, East Ohio Gas Company, is willing to pay a higher price for the gas. (T. 56-63.)

. . . . . .

[fol. 443] Cause of present low prices of natural gas in the Hugoton field

Based upon my experience and knowledge of natural gas and its production, transportation and distribution, I have an opinion as to the cause of the present low prices of natural gas in the Hugoton field. Practically all of them were established many years ago when there were numerous sellers of gas having very large gas reserves, and only a few buyers with limited transportation facilities. These rates are still in effect, because the contracts were generally for the term of the life of commercial production. (T. 69.)

Relationship between price of natural gas at the wellhead and conservation of natural gas as a natural resource

I have an opinion as to whether or not the price of natural gas at the wellhead has any relationship to or bearing upon the conservation of natural gas as a natural resource. Conservation is stimulated by higher prices, in that it justifies the use of greater care to decrease losses, increase recoveries and reduce consumption for inferior uses. Areas in the Hugoton field which are now marginal, or not commercially productive, will be drilled and the underlying gas recovered if the price be higher. Also, with a higher [fol. 444] wellhead price the gas may be economically produced at a less rapid rate, thus increasing the time over

which this natural resource is available. Price is the control which determines the extent to which natural gas as a resouree will be conserved. (T. 70-71.)

Waste of gas

By Mr. Adams:

We-ster's International Dictionary, that is G. & C. Merriam's Second Edition, generally refers to waste as "to spend or expend needlessly, carelessly, or without valuable result; to consume or employ prodigally, idly, or without any considerable return or effect, or to apply to useless needs, or to squander." In general I construe that to be "waste" in its ordinary meaning. I am using the definition given in the dictionary as a guide to the meaning of the term "waste." I believe physical waste would be one of the characteristics.

There are various kinds of waste. First we would have "physical waste." I put that first because it is the kind of waste that has been discussed at great length in the oil and gas industry. It usually refers to production practices which leave in the ground unrecovered some quantity of gas or oil which by use of better production methods, or under other conditions, might have been recovered.

Another kind of physical waste occurs after the gas is extracted from the ground and not used efficiently. It might be the end use and again it might be the failure to use it. It comes within the extremes of that conception. You can blow it into the air and not use it at all, or use it in some process of burners where its full value is not being realized in the operation. I believe those come in the purview of physical waste, although I do not mean to take in inefficient use as being entirely physical waste. Obviously it is a very broad thing and I would rather refer to it as a separate heading. I would rather limit physical [fol. 445] waste as a failure to use. I believe "waste" in its ordinary meaning is much broader than "physical waste." What I am about to testify to deals with waste and not physical waste.

By Mr. Fleeson:

Continuing further, however, on "physical waste," we have the matter of blowing gas to the air unnecessarily, in completing or testing gas wells. We have the flaring of gas in the production of oil. The excessive leakage in a pipeline or distribution system is an example of physical waste in which there is a failure to use the gas for its energy value.

Another classification might be the inefficient use and these are losses that occur in the utilizing of gas where you have any improperly designed furnace, the use of gas in a building that is not insulated properly, or where it is used under wasteful conditions. I have seen quite a few places where the price of gas is so low that instead of turning the flame down when the room is too hot, they simply open a window. That sort of thing is an example of inefficient use or wasteful use.

Another classification which results from my study of waste is what is sometimes referred to as inferior uses. There you come into the question of what constitutes a wasteful or prodigal use of gas and these also constitute waste. It is a little bit difficult to draw a very fine line between what constitutes inferior use as contrasted with so-called superior use, but we do know there are some plants, usually the very large industrial plants where other fuels of which we have a much larger supply (the principal one would be coal) could be used just as well, and the use of which would not be prodigal from the standpoint of over-all economy. I consider such applications to be included within the purview of "waste" in its ordinary meaning.

One other thing which bears on an interpretation as to [fol. 446] what constitutes "waste." You come down to this consideration that you cannot use gas any way without some waste. There is a small amount of waste any place. What I am talking about when I say there is waste, is a thing I want to clarify, and I believe the clearest definition I can give you is as shown on this Exhibit No. 7. Whenever natural gas is used under conditions where it is cheaper than coal you have a situation conducive to waste.

By Mr. Adams:

As to whether, from year to year, depending on the circumstances and the fluctuating price of coal, if you use gas one year for certain things that would constitute waste, where in another year it would not constitute waste, I would say that the changing circumstances would change the degree to which it was waste. (T. 71-78.)

* * * * * * *

[fol. 448] Dedicated acreage in Hugoton field

By Mr. Fleeson:

In the course of my studies of the Hugoton field I have prepared a map of the field showing dedicated acreage within the field boundaries.

* * * * * * *

I believe it shows that practically all of the Hugoton field acreage is dedicated to some project. (T. 86-87.)

* * * * * * *

[fol. 450] Estimated production of natural gas in the Hugoton field

By Mr. Fleeson:

I have made a study of the estimated production of natural gas in the Panhandle and Hugoton gas field, by years.

Exhibit No. 9 is a result of the study which I made. (A copy of this exhibit, omitting reference to Panhandle field, is as follows:)

EXHIBIT No. 9

WITNESS: *R. A. Ransom*

ESTIMATED PRODUCTION OF NATURAL GAS FROM HUGOTON GAS FIELD BY YEARS 1948-1967

Year	Hugoton field, billion cu. ft., 14.65 psi base
1948	359.6
1949	459.2
1950	621.9
1951	672.6
1952	761.7
1953	795.3
1954	843.2
1955	847.3
1956	856.2
1957	864.2
1958	872.2
1959	880.2
1960	888.2
1961	896.2
1962	904.2
1963	912.2
1964	843.2
1965	741.7
1966	657.0

[fol. 451] Regarding the Hugoton field, I used the reserve estimate for the entire field as of July 1, 1947, of 18.96 trillion cubic feet, down to a wellhead abandonment pressure of 50 pounds per square inch gauge on a measurement pressure of 16.4 pounds per square inch for the Kansas portion of the field. For the Kansas portion of the field the reserve on the same basis was 13.73 trillion cubic feet.

I made an over-all study of both the Hugoton and Texas Panhandle fields to discover the probable future demands for gas, by years, and the deliverability of the wells which would be in these fields. I made the study during the last two months of 1947. In doing this I studied the gas requirements of each pipeline and other

users of gas from these two fields as they now exist and as those requirements would change with the years. I also studied the present gas wells of each company and the number of additional wells which would be drilled on presently undeveloped acreage, the delivery capacity of the present and future wells of each company.

From this over-all study I obtained the availability of gas from these two fields by years. Exhibit No. 9 is a summary of the results of the study which I have just described.

Production from the Hugoton field is expected to increase quite rapidly until 1954, after which the increase will be more gradual until a maximum is reached in 1963. (T. 92-94.)

* * * * * * *

[fol. 459] Cross examination.

By Mr. Adams:

(December 13, 1948.)

* * * * * * *

[fol. 460] Essentials for financing gas pipeline projects

In order to finance a gas pipeline project there must be ability to perform service. You must have some gas to transport and sell. I do not mean dedicated gas reserves. It might be under contract. In the language of some of the Power Commission orders, it must be devoted to the exclusive use of the company. This is essential from the standpoint of obtaining the money. (T. 556-557.)

Before you could successfully finance an otherwise sound project you ought to be able to show that you have some reasonable assurance of being able to obtain materials required to build the project. You ought to have an assured market or one subject to not very great risks, in any event. I do not believe the fixed price is of importance under the Natural Gas Act. I have actually seen contracts for delivery of gas with no price specified in the contract. (T. 557.)

* * * * * * *

[fol. 464] Reserves in the Kansas Hugoton field

I have computed the reserves in the Kansas portion of the Hugoton field. As of July 1, 1947, on a 14.65 pounds per square inch absolute pressure base, upon abandonment pressure of 50 pounds per square inch, the total figure for Kansas was 15.373 trillion cubic feet; for [fol. 465] Oklahoma it is 3.391 trillion cubic feet, and for Texas 2.462 trillion cubic feet. (T. 621.)

Hugoton field one common source of supply

All of the wells in the Hugoton field are completed through all the producing horizons or formations which produce into the same well bore. For that reason the horizons can be treated as one formation and as one common source of supply, existing in Kansas, Oklahoma and Texas. There is a permeable connection through all the areas in the field, so that in time one well might be able to remove all the gas.

Cross examination.

By Mr. Shaw:

In the purchase of gas throughout the Kansas Hugoton field one price should prevail. Conditions relating to purchase and delivery of the gas being comparable, a uniform price should apply, irrespective of where the gas goes. (T. 633-634.)

Competitive fuel prices frequently used as basis for determining sale price of gas

In arriving at the value of gas you have to consider the price of coal and oil. I am not testifying as to how rapidly one ought to revaluate the situation and make changes in gas prices.

By Mr. Fleeson:

With respect to contracts of pipeline companies with industrial users that have used the comparative price of fuel as a basis for which they sell gas to such industrial

users, it is not an uncommon practice to put into such a contract what is called a fuel adjustment clause. If the price of competitive fuel goes up and down, that adjustment will be made in accordance with some method given in the contract. (T. 636-637.)

By Mr. Shaw:

One other type of adjustment clause that is quite common [fol. 466] in pipeline company contracts relates the selling price not to the price of oil or coal, but to an index of price levels, such as the Department of Labor, Bureau of Statistics index of wholesale prices. That is quite common. I know that the Federal Power Commission has authorized, or permitted, such contracts. The contract was on a sale for resale. I am referring to a contract between Phillips Petroleum Company and Michigan-Wisconsin for gas from the Hugoton field. (T. 637-638.)

There are contracts that provide for changes in the rates to be charged and amounts to be paid, based either on the price of fuel oil or on the index of wholesale prices filed with the Federal Power Commission. (T. 639.)

Supply and demand in the early history of the Hugoton field

In the years from 1930 to 1935 it was very difficult to get rid of the gas in the Hugoton field. Producers had great difficulty in making contracts with pipeline companies. Wells that were then in existence were adequate to supply the capacity of the then existing pipelines. The supply being in excess of the demand had an effect on the revenues of pipeline companies and the feet of additional gas that they had and they were not interested in buying more. That was a very natural thing in the conditions existing in the Hugoton field. (T. 643-644.)

* * * * * * *

[fol. 467] Hugoton reserves

Since my testimony in October, I have made another study of the Hugoton reserves, covering an additional

year of production experience. The original reserves in trillion cubic feet, at a pressure base of 16.4 pounds, to the abandonment pressure of 50 pounds per square inch at the wellhead, in Kansas were 13.727; for Oklahoma the figure was 4.049, and for Texas 3.943, giving a total of 21.719 for the entire field. This is an original reserve figure. (T. 670-671.)

[fol. 470]

* * * * * * *

One hundred percent of the total potential house heating customers would use gas for house heating if the price of gas were higher than coal by only five cents per million Btu. (T. 675.)

If all the gas customers should demand gas for house heating, the demand would be so great that none of the pipeline systems would be able to meet that demand. (T. 678.)

* * * * * * *

[fol. 471] Market study of demand for gas

By Mr. Fleeson:

Assuming that a retail price of gas is set from two to two and one-half times that of coal, on a Btu basis, as to what proportion of the present gas customers will use gas for house heating, this is a condition which has existed for many years before the War in the Kansas City market. For quite a long time their gas was sold at a price for house heating which was approximately two and one-quarter times the cost per Btu of coal, and basing my figures on the experience in Kansas City, I would say that approximately twenty percent of the gas customers would use gas for house heating under those circumstances. That was the actual experience in Kansas City. Fifty to sixty percent of the gas customers would use gas exclusively if the price were one to one and one-half times that of coal on a Btu basis.

* * * * * * *

[fol. 473] Statement by Chairman Robertson:

The Commission has filed gas statistics for the year 1947.

"Mr. Adams: Will counsel stipulate what you read might go into the record as evidence?

"Mr. Fleeson: We certainly will.

"Chairman Robertson: I will read them, and if any of the parties desire to challenge them, they may do so. Now, all volumes will be expressed in Mcf. Natural gas produced in Kansas, 180,000,000. Natural gas used for carbon black, 21,700,000. Natural gas exported, 105,000,000. Natural gas produced and used in Kansas, 75,000,000. Natural gas transported into Kansas, 100,700,000. Total gas used in Kansas, 175,700,000. The use of gas in Kansas domestic 58,500,000, industrial, 95,500,000, carbon black, 21,700,000, or a total use in Kansas, 175,700,000. The exports over imports equals five percent. Excess gas produced in Kansas over total gas used, 2.4 percent.

"This has a computation as to the value of this gas —I don't know if you want that, but those are the figures for the gas used in, imported and exported in Kansas for 1947." (T. 712.)

* * * * * * *

[fol. 474] Testimony of Henry Keplinger.

Direct examination.

By Mr. Stucky:

(October 19, 1948)

Qualifications

I live at Tulsa, Oklahoma. I am a petroleum and gas consultant. We have a firm of engineers engaged in the study of oil and gas problems. The firm name is Keplinger and Wanenmacher. I have been a petroleum and gas consultant four years under our present arrangement and approximately twelve years before that with Shell Oil Company and others. I am a native Kansan. I went to high school at El Dorado, and graduated with Bachelor

of Science degree from the University of Tulsa. I attended George Washington University and the University of Goettingen, Germany. I have a Master of Science degree and my studies were related to physics, petroleum and gas engineering and geology. I have had special training and experience with respect to the natural gas industry, with particular reference to the production and transportation and utilization of natural gas. I have worked with gas producers in the states of Kansas, Oklahoma, Texas and Louisiana. I have studied the economics of producing gas properties, both from the standpoint of reserves of gas available and the market conditions. I have made studies of gas reserves in the United States and foreign countries for industries which use gas in the production of their products and am familiar with natural gas reserves and the uses of natural gas in several large indus- [fol. 475] tries in which gas is a prime factor in the production and cost of their product. (T. 153-154.)

I have studied the cost, transportation and have designed gas pipelines.. With respect to the utilization of gas, I have investigated various markets for gas, including industrial markets, carbon black markets and domestic markets. (T. 154-155.)

Regarding my experience in evaluating oil and gas properties, we have appraised oil and gas properties for numerous companies, having appeared before the Securities and Exchange Commission, the Federal Power Commission and regulatory bodies in several states. Our reports on valuations have gone to the banks in New York, Chicago and other banking centers where money is loaned to individual gas producers to develop their properties. I am familiar with the price of gas as it relates to the development of these properties. (T. 155.)

I belong to the following professional societies: American Society of Mining and Metallurgical Engineers, American Petroleum Institute and the American Society of Mechanical Engineers, and am a professional engineer in the state of Oklahoma. (T. 155.)

I am familiar with the Hugoton gas field and particularly that portion of the field which lies in Kansas. I have followed the development and studied the Hugoton field

since about 1936 and 1937. I have made frequent trips to the area to observe the performance of gas wells and have estimated the gas reserves of the area and have studied the markets which might be available to the producers from the Hugoton field. (T. 155-156.)

Physical characteristics of the Hugoton field

Natural gas bearing formations of Permian Age are encountered in the Hugoton field at depths varying from 2,450 to 2,800 feet. The gas pay zones are found, for the most part, in what have been termed the Herington, Kri- [fol. 476] der, Winfield and Fort Riley zones. Core and sample information shows that the gas is found in the Dolomite sections in the above mentioned zones. The various producing horizons mentioned constitute a common source of supply. There have been over a thousand wells completed in the field with all producing zones open if they are productive in the particular well locations, so that all horizons have been interconnected by drilling. (T. 156-157.)

Exhibit No. 15 (abstracted at C. A. 203) is a map of the Hugoton field in Kansas. The portion of the field which we feel will probably be devoloped is outlined in red. The exhibit shows the wells which were connected and had an allowable as of September 1, 1948. The map does not show wells in the field which are producing but do not have an allowable. The gas wells were taken from the August, 1948, proration statement of the Kansas Corporation Commission. (T. 157.) There are over two million proven acres in the Kansas Hugoton field. (T. 157.) Based on the October, 1948, proration report of the Corporation Commission, there were 1,106 wells having an allowable in the Hugoton field, to which there was attributed 692,298 acres. This is approximately one-third of the total estimated proven acreage in the field. (T. 158.)

Hugoton field is common source of supply

A few wells drilled in this common source of supply operating for a long enough period of time would effec-

tively and substantially drain the entire reservoir. (T. 158.)

Description of natural gas in place

Natural gas in place is a gaseous fluid with very low viscosity. This very fluid substance will move easily under low pressure differentiates, from a high pressure [fol. 477] area in the direction of least resistance to a lower pressure area. (T. 158-159.)

Natural gas has a much lower viscosity than crude oil and due to this physical property natural gas is more fugacious and will move much more readily through porous rocks than oil under similar conditions. The drainage in gas reservoirs is much more extensive and more rapid than in oil reservoirs. (T. 159.)

Reservoir pressures

The original virgin shut-in wellhead pressure in the Hugoton field is approximately 440 pounds per square inch gauge at the wellhead. The present shut-in wellhead pressures vary from less than 400 to 440 pounds. The last official wellhead pressure tests were taken by the Corporation Commission in the summer of 1948. The pressure of new wells which are being drilled in old proven areas of the Hugoton field is less than the original virgin wellhead pressure. It approximates the pressure recorded in the adjacent wells which have been producing from the reservoir for some time. The pressures in newly developed areas have declined without production from the immediate area and the decline in pressure has been the result of production of gas from wells in the adjacent area. This signifies drainage of gas and indicates the fugacious character of natural gas. (T. 160.)

Gas drainage in the Hugoton field

Part of the proven undeveloped acreage has declined in pressure because of the production of gas from adjacent developed acreage. The decline of pressure from the undeveloped acreage is indicative of drainage of gas

to the developed acreage where gas is being withdrawn from the common source of supply. The direction of migration of gas is toward the areas from which gas is being produced. The production of gas from a single [fol. 478] well will lower the pressure in the immediate vicinity of the well and thereby cause drainage of the gas from the surrounding acreage which, under virgin conditions, would be assumed to have the higher pressure. Gas moves in the direction of least resistance to the low pressure areas developed by the production of gas. (T. 160-161.)

Reserves

I estimate the original virgin gas reserves in the Kansas portion of the Hugoton field to be fifteen trillion cubic feet, on a pressure basis of 14.65, with an abandonment pressure of 25 pounds to the square inch. Other investigators have estimated the original reserves of gas from ten trillion cubic feet to almost fifteen trillion cubic feet. There are approximately one million acres in the Hugoton field on the Kansas side which will produce an average of ten million cubic feet per acre, and there is in excess of another one million acres which will produce an average of five million cubic feet per acre. I heard Mr. Morgan testify that there have been marketed out of the field a total of 855,902,826 Mcf of gas, based on 16.4 pound pressure base. On a 14.65 pressure base the equivalent volume of gas would be 950 billion cubic feet, an increase of about eleven percent. In addition to this gas sold or marketed from the field, there has been production of gas in the completion of wells. In my opinion there has been produced from the field over a trillion cubic feet of gas at this time, based on the 14.65 pound pressure base, and approximately fourteen trillion cubic feet of gas remains in the Kansas portion of the Hugoton field at this time.

As to the present rate of exploitation and the amount of gas taken out of the Kansas portion of the Hugoton field currently, during the month of August there was a [fol. 479] total of 12,021,180,000 cubic feet of gas produced.

The field is about one-third developed. If the other two-thirds of proven acreage were developed, the available production from the field, based on continuation of the present average allowable per well, will be three times its present production. (T. 162-164.)

Factors influencing decisions to drill

The owners of undeveloped proven acreage in the Hugoton field have not been able to await favorable demand conditions, because their respective properties would be subject to drainage to the producing leases in the field. Some delay is possible, but the longer the time, the greater the amount of gas drainage in any event. Demand conditions were never favorable at any time prior to perhaps 1947. They are more favorable now, but it is not presently important, since practically all the acreage in the pool has been dedicated to pipeline companies or other sources.

By Chairman Robertson:

The initial market provided the price of four cents and four and one-half cents. (T. 165-166.)

By Mr. Stucky:

As to what influence the price of gas has on the decision to drill in a common source of supply; if the price of gas is sufficient to amortize the investment and give some return, however small, it is better to develop than allow the gas to escape by drainage to neighboring producing leases, from which you would receive no value. In the past, price has been balanced against drainage and loss of leases and decisions to develop were made without awaiting a more favorable demand condition. The economic effect of such a compulsion to drill, resulting from the underground migration of gas, is competition among the sellers of gas, which forces the price down to the lowest minimum which will [fol. 480] amortize the investment necessary to procure the gas and give some little return. (T. 166-167.)

Current supply and demand

The current demand for gas during the month of September, 1948, as shown by gas runs during that month was 11,813,712,000 cubic feet of gas, whereas the current available production of gas from the same area over the same period of time, based upon deliverability tests, is well over sixty billion cubic feet. These figures as to current production and present deliverability show the existence of a supply of gas in excess of the present demand. (T. 167-168.)

Transportation of gas

Gas has physical properties which affect its amenability to transportation. It is volatile and escapes into air unless it is stored under pressure. The only commercial means of transporting gas in large volumes is by pipelines. Butanes and propanes may be and are liquefied and shipped in tank cars. The Bureau of Mines transports some helium by pipeline and helium is also shipped in special tank cars. Liquefaction of methane for shipment has not been proven commercially feasible. (T. 168-169.)

Gas cannot be effectively stored in the field on the surface. The physical properties of oil and other fuels affect their capacity for transportation. Oil is a liquid which may be stored. It can be transported by truck or railroad tank cars or by oil pipelines. Coal is a fuel which may be transported by trucks or by railroads. In comparison, the physical characteristics of gas make it subject to transportation only by pipelines. In summary, fuels are either gases, liquids or solids. Liquids and solids may be shipped by rail or highway; gases must move by pipeline. (T. 169.)

[fol. 481] This difficulty in transporting gas is a limiting factor upon the demand for gas in the field. It limits the outlets for gas to pipeline companies and pipelines require a large capital outlay. Once a pipeline or pipelines are established in the field, it is not economically feasible to build any substantial number of competing lines to the field. (T. 169-170.)

Marketing oil and gas from isolated wells

It is economically feasible for the owner of an isolated oil well producing oil in commercial quantities in presently known producing areas in the United States to transport and market his oil at a profit. He does not have to rely upon a pipeline, but can use truck transportation or railroads to move the oil to a market. He is not restricted by other conditions as the gas producer is. In the case of coal and other solid fuels the transportation to a market is possible through the use of trucks or existing railroad facilities. (T. 171.)

It is not economically feasible for the owner of an isolated gas well in a common source of supply, who does not have a pipeline connection, to transport his gas to a market at a profit, unless his consumer market is very close. However, if the isolated well cannot support a pipeline until additional drilling proves up sufficient gas reserves, there is no loss of gas or migration of gas, because there is no pull or production of gas from the common source of supply which was discovered by the well. (T. 170-171.)

As to the potential production of the largest well in the Hugoton field, there are wells which will produce in excess of fifty million cubic feet of gas per day if produced to capacity. It would not be economically feasible for the owner of such a well to transport the production from that well to the consumer's market at Kansas City or Wichita, [fol. 482] because the reserves and production from one well would probably not be adequate to justify the large investment in the pipeline. In addition, the proration in the state will not allow production from that well to capacity while other wells in the area are prorated to a fractional percent of the ability of the wells to produce. Even though you could establish a market equal to the open flow of the well, the proration order of the Hugoton field as now in effect would allow an average of approximately only one-half million cubic feet per day. Even without proration, the law would limit production to twenty-five percent of the open flow. (T. 172-173.)

While if a market were not available to an isolated gas well the well could be shut in and no loss of the gas

underlying the lease would occur, because no drainage would take place, that is not true in a common source of supply from which other wells are producing. The only way an owner who has drilled into a common source of supply can market his gas is to obtain a connection with a pipeline outlet that is presently drawing its supply of gas from the common source of supply. (T. 173-174.)

The number of potential purchasers a well owner has in the Hugoton field depends upon the location. There are nine pipelines in the field, two carbon black plants, plus the synthol plant, which would make no more than twelve purchasers, no matter where his wells are located. (T. 174-176.)

Another factor which has led to the present low price of gas in the Hugoton field is the fact that Panhandle and Northern Natural are producers of gas in the field and the capacity of their own wells at this time would be sufficient to supply their own demand for gas, if proration did not exist, so that there is no great economic compulsion for them to purchase gas from others. Panhandle supplies approximately forty percent of its needs from its [fol. 483] own wells and has done so for several years. (T. 176-177.)

(Statement by Chairman Robertson):

> "It is a well known fact that as late as 1943 and early 1944 there were many wells out there begging for connection. There is no mystery about that, is there? Presently, of course, there is a good deal of demand, at least, if not competition for new connections, but in the early day, or as late as 1943 to my personal knowledge there were several wells without connections." (T. 178.)

Difficulty in securing pipeline connections

The existing contracts in the Hugoton field were established starting late in 1929, up to the present time. In 1936 and 1937 there was no basic proration order in the Hugoton field. Starting in 1937 there was agitation for a basic proration order. During that period there were sometimes many wells which were not connected. They were drilled

gas wells. I think particularly of Helmerich and Payne, of Tulsa, who have had up to as high as ten or twelve or more unconnected wells. The reason for that was that they could go to the director of conservation of the Commission, after 1944, and get an allowable, but that was only an allowable; it was not a demand. The basic proration order, paragraph "i," states that they will be credited with an allowable. We have only proration in the Hugoton field; we do not have a ratable take clause in Section "I." Ratable take would require the pipeline companies to make a connection upon demand or upon order of the Corporation Commission. (T. 178-180.)

Impracticability of building substantial number of competing pipelines

Aside from the cost and huge initial investment required to lay a pipeline, there are other factors which make it impractical to build any substantial number of competing [fol. 484] lines. The main factor is the reserves which are available for the respective lines. These reserves are acquired by obtaining proven acreage, or by dedications. Such reserves are necessary before a line can be constructed under present regulations. (T. 180-181.) They are necessary, first, for financial reasons. A line should have sufficient reserves to amortize the cost of the line in a reasonable length of time and secure a profit for the pipeline company. Secondly, the Federal Power Commission has certain rules and regulations which must be followed in order to obtain a certificate of convenience and necessity for the construction of the pipeline. The Federal Power Commission requires a certain amount of reserves. Another limiting factor in the construction of a pipeline is the shortage of pipe. (T. 181.)

Exhibit 16 shows the extent of Hugoton field which has already been dedicated under existing dedication contracts.

(A copy of this exhibit is attached on the following page.)

Note:

Page 335 is on card 4.

[fol. 486] The colored red line on the map indicates my estimates of the probable field limits. There have been changes in dedication since this exhibit was prepared. Roughly, 35,000 acres in Township 22 south, Range 34-35 west in the northern part of the map has now been dedicated; and along the east side of the pool there has been another 30,000 acres, or more, dedicated. These acreages are shown blank on the map, but have since been dedicated. The dedications are those of Northern Natural occurring in Kearny and Finney Counties on the north, and on the east side in Haskell and Seward Counties. (T. 181-183.)

I am familiar with reserves and their value and also with the expense of transporting gas, and gas pipelines. As to whether I can make a statement by looking at this exhibit, based on my knowledge, whether or not it would be economically feasible for a number of competing pipelines to obtain sufficient reserves to go ahead with additional construction, it is apparent from this exhibit (which probably should be colored to really exemplify the fact) that it would not be economically feasible at this time. Any reserves which might be dedicated seem to be scattered. There are little white marks throughout the map, but they do not amount to much as far as acreage is concerned. Along the sides of the pool there are some blank spots in the northwest part. This acreage has some possibility, but for the main the acreage in the Hugoton field is already under contract and dedicated for the life of the lease. It is highly problematical that another pipeline could get sufficient reserves so that the financial structure would be sound. That is regardless of all Federal Power Commission regulations and requirements or regulations of the Corporation Commission. (T. 183-185.)

[fol. 487] Relationship between prices for gas and economic conditions

I have studied the history of prices paid for gas in the Hugoton field. Normally the price of a commodity or resource increases when the consumer demand for that commodity increases. The consumer demand for natural

gas has been increasing for a number of years, particularly in the Southwest. You would expect the price of natural gas to rise during such a period of increasing demand for gas. But the price paid for gas in the Hugoton field did not change much from 1931 to 1946. In 1947 there were some new contracts at higher prices, but these had no effect on existing contracts which control much of the field and which are on a price basis of around four cents.

As to the flexibility of the price of gas, compared with other fuels, the price of petroleum and petroleum products increased during the period from 1930 to 1944 and has since continued to rise at a much more rapid rate. Bituminous coal prices during the same period increased and are continuing to increase at a very rapid rate. These conditions are shown on Exhibit No. 17 (abstracted at C. A. 204). (T. 185-186.)

General commodity price levels are shown on this exhibit by large dots colored green. It shows that coal and petroleum follow the other commodities, with the exception that for a period during World War II the prices of petroleum were frozen. The price of gas at the wellhead has not followed the trend of increasing prices of other commodities. (T. 186-187.)

Price inequities in the Hugoton field

The present proration system in effect in Kansas has helped the price situation to some extent, but many of the gas contracts were signed before proration went into effect, on March 30, 1944. The field was discovered in 1922. During [fol. 488] the period of time until proration, gas was strictly a distress commodity. Life-of-lease contracts which were negotiated have been perpetuated and still exist and they enter into the weighted average price in the field. The price inequities resulting from this destructive competition during the days before proration exist uncorrected at this time. These inequities still exist because of the lack of effective regulations designed to require pipeline companies to take gas from unconnected wells. Even though a producer, through a tender of his

gas, can get an allowable, he cannot market his gas unless he gets a connection, and this connection can only come about by coming to the terms of the pipeline company. Under present conditions, if the owner of the gas well would refuse to connect with the pipeline, and shut his well in to await better prices or terms from the pipeline company, the effect upon a landowner's ultimate recovery would be that he would have his gas drained out from under his land and someone else would sell his gas at the price he refused to take. (T. 187-188.)

Importance of natural gas as an irreplaceable resource

The present known reserves of natural gas on a Btu basis are only a small fraction of the percent of the total reserves of all forms of fuel in the United States, including oil and coal. The reserves of gas are approximately two-tenths of one percent of the total reserves of fuels.

The total known reserves of coal, including all grades, has recently been estimated to be 2,536 billion tons. The equivalent figure for natural gas, based on heating value, would be 5 billion tons. Recognizing variables and uncertainties in estimating reserves, it is not difficult to come to the conclusion that gas reserves will furnish only a very small f-action of the nation's fuel supply. Natural gas can only be regarded as a "flush" production fuel which cannot be expected to hold up to the demand. (T. 189.)

[fol. 489] During 1940, the energy production of coal in the United States, amounted to 15,600 trillion Btu, and the energy production of natural gas amounted to 4,200 trillion Btu. For the year 1946 the total percent of energy production of gas, compared to coal, was approximately twenty-five percent of the energy production of coal. These figures show that we are using our gas energy resources, at a rate of over 100 times faster than our coal resources. (T. 190.)

Relationship between price of gas and conservation

A contributing factor for this large rate of gas production in comparison with the energy production of coal is that the price of natural gas for equivalent heating value

is much less than that for other fuels and is therefore stimulating the demand for natural gas. In addition, gas is much more attractive to a consumer as a fuel. (T. 190.)

Production in excess of the amount of gas underlying lease

I have an opinion as to whether or not some of the original leases in the Hugoton field covering only 160 acres have produced an amount of gas in excess of the amount originally underlying the lease. My opinion is that some of the early leases on 160 acres, before unitization with additional acreage, have produced more gas than was originally under those leases. If the landowner adjacent to those producing leases did not sell his gas at the price being offered by the pipeline companies, it would be drained out and the producing leases offsetting would sell the gas at the price the landowner refused to take. (T. 190-191.)

Cheap gas and the practice of blowing wells

In general, there are two methods employed in getting a gas well into production in the Hugoton field. One way is to drill completely through to the bottom of the producing formation, with rotary tools; set the pipe; perfo- [fol. 490] rate the pipe, and treat with acid. The other way is to drill to the top of the producing formation; set the pipe; drill the producing section with cable tools, and then acid treat. In either practice it is necessary to "dry the wells" after the acid treatments. It is necessary to get the spent acid out of the well. (T. 191.)

This is done by producing the wells into the atmosphere; blowing the gas into the air. The purpose of this is to pull the spent acid water into the well bore and out of the formation. (T. 191-192.)

The same problem is encountered in the production of oil. The oil well has to be produced, in order to pull the spent acid out of the formation into the bore hole. But in the case of oil it is produced into tanks and is not blown into the atmosphere. The oil with the spent acid is taken into a cleaning system and the spent acid is taken out through proper draining. (T. 192.)

Engineers have devised ways by which spent acid can be taken out of gas wells through production, without blowing the gas into the atmosphere. Here is how I explain the differences in the practice of conserving oil during the process of cleaning the well up, while at the same time gas is spent into the air in a similar process. The price of oil is such that extra expense can well be afforded to save every barrel of oil, while in the case of gas, and under the present low price of gas, it would not be economical to purchase the necessary equipment. An increase in the price of gas would lead to the conservation of gas now wasted as a result of this blowing. That is the only distinguishing characteristic between the problem of oil and that of gas. (T. 192-194.)

By Commissioner Stiles:

As to how much increase in the price of gas would be necessary, the cost of increasing the gas pressure from approximately atmospheric would be in the neighborhood [fol. 491] of five or six cents per thousand cubic feet, so it would probably be necessary to have around ten or fifteen cents for the gas. Ten cents might do it. (T. 194-195.)

Relationship between price of gas and abandonment of wells

When a gas field is produced down to a point where the production of gas is no longer profitable to operate, it is abandoned. That is the present abandonment procedure. As to when a well reaches this point, it depends upon the ability of the well to produce and the bottom-hole pressure. The bottom-hole pressure can be lowered by pulling what is termed "vacuum" on the field. The more vacuum that is pulled on a gas field, the higher the cost, because it is necessary to install additional compressor capacity. (T. 196.) A vacuum is applied even in cases where the producing pressure in the well is lower than the atmospheric pressure.

As to the abandonment pressure in fields where the price is comparable to the price in the Hugoton field, the abandonment pressure where the price is low will be much

higher. The controlling factor in determining at what pressure a well will be abandoned is the price of gas. The effect on the amount of ultimate recovery of this irreplaceable natural resource of a higher price of gas in the field is that it will increase the ultimate recovery if it is possible to reduce the abandonment pressure through an increase in the price of gas. (T. 196-197.)

Price of gas at the wellhead in other areas

I know generally the cost of developing wells and producing gas around the areas of Pittsburgh and Butler, Pennsylvania. The price of gas at the wellhead is around twenty cents a thousand. This difference in price for gas in Butler and Pittsburgh and the price in the Hugoton field cannot be explained in terms of the cost of development or circumstances incident to the development, such [fol. 492] as depth, amount of gas in place under tracts, distance to the markets, etc. (T. 197-198.)

Price inequities in the Hugoton field

Landowners in the Hugoton field do not receive uniform prices for their gas. The differences in price do not reflect a difference in the quality of gas. It all comes from a common source of supply. There are some differences in the quality of gas, but differences in price bear no rational relationship to these differences in quality. The differences in price cannot be explained on the basis of differences in deliverability, nor can they primarily be explained on differences in location of wells; neither can they be explained on the differences in wellhead pressure. No rational basis exists for one landowner receiving less for gas of the same quality at the same pressures than gas produced under the neighbor's land. (T. 200-203.)

Market differences in other fuels

Prices of other fuels, particularly coal and oil, are established by a considerable number of willing purchasers and willing sellers in a competitive market. (T. 203.)

• • • • • • •

[fol. 495] Wells presently unconnected

There are wells in the Hugoton field which have been completed, but do not have allowables. There are about 300 wells, belonging to Stanolind and Magnolia, without an allowable. Aside from those, there are some eight or nine wells on the west side of the field which are unconnected and have no allowable.

* * * * * * * *

By Commissioner Stiles:

They have sought connections for these wells. They are not being drilled to provide for some special future market the owners have in mind. (T. 212-213.) They are trying to market this gas through a pipeline. They do not market it, [fol. 496] because if you tender the gas to a pipeline they require a life contract. (T. 213.)

By Mr. Kyle:

Negotiations for contracts to sell gas have been in process. There will be no tender filed with the Corporation Commission until an agreed price can be reached and also a form of contract. There will be no formal tender until Colorado Interstate agrees to take gas on a day-to-day basis. (T. 212-213.)

There are pipelines in that area now and the owners of the wells are willing to build gathering lines to those pipelines. (T. 218.)

* * * * * * *

[fol. 499] Effect on development of increase in field price

The effect in the field, of an increase in price, would be to give producers a chance to drill acreage under lower allowable rates. These lower allowable rates necessarily will follow as more wells come into production and the market for gas is not increased proportionately. The market for gas will not increase proportionately to any additional available production resulting from additional wells, because the market for Hugoton gas must be limited to the reserves. It will not be good economy to have a field produce at a rate in excess of one-twentieth to one-

twenty-fifth of the total reserves of the pool for a year. [fol. 500] The market that will ultimately be assigned to the Hugoton field by pipeline companies is limited. The lowering of allowables on presently existing wells will inevitably follow from the development of the two-thirds of the field which is now undeveloped. Unless the price is increased, the profit per well will not provide sufficient incentive for the drilling out of the proved acreage, because of the investment necessary. It takes approximately twenty-five tons of steel to drill a gas well. (T. 225-227.)

Kind of price necessary for ultimate maximum development of field

The price of gas that is necessary for the ultimate maximum development of the Hugoton field, having in mind both consumers and producers, is that price which would be sufficient to allow a complete development of the proven acreage in the field, so that one-third of the landowners will not be draining gas from the other two-thirds. The price should not be out of proportion to the heating value of the gas. The price should not be such as to accelerate demand for gas because of its low price in comparison with other fuels such as oil and coal. A flexible price structure should be maintained, in order to keep the price of gas comparable to the price of other fuels and basic commodities of the country. (T. 227-228.)

Oil and gas reserves in Kansas

I have compared the heat value of the known oil reserves with the heat value of the original gas reserves in the Hugoton field. The ultimate gas production in the Hugoton field is about 15 trillion cubic feet. The present known oil reserves in the entire state of Kansas is slightly in excess of 600 million barrels. A barrel of oil contains approximately 6 million Btu. On a heat value basis the 15 trillion cubic feet of gas in the Hugoton field is equiv- [fol. 501] alent to 2,500,000,000 barrels of oil. In other words, the Hugoton field contains the equivalent of 2,500,000,000 barrels of oil, as compared with the total known reserves of oil in Kansas of 600,000,000 barrels. The heating value in Hugoton is approximately four times that

of the known oil reserves in the State of Kansas. Gas is a dominant fuel in comparison with oil. (T. 229.)

Cross examination.

By Mr. Adams:

(December 14, 1948)

Drainage of gas in Hugoton field

I have stated that drainage in gas reservoirs is much more extensive and more rapid than in oil reserves, because natural gas has a much lower viscosity than crude oil. You get no drainage without pressure differentials. A slight pressure differential in the gas field makes an enormous difference in the drainage factor where wells are a mile apart. You would have drainage even if the pressure differential were only one pound. With the low viscosity of gas, the drainage would not be inconsequential. It is a matter of very simple calculation. (T. 753-755.)

• • • • • • •

Exhibit 16, totally disregarding the synthol plant, shows that between 80 and 85 percent of the acreage is dedicated. (T. 764.) Since the exhibit has been prepared, [fol. 502] Northern Natural has made a contract with Warren Petroleum Company for an additional 67,000 acres. (T. 765.)

I testified in substance that the price of gas has not responded to general economic conditions, because of dedications in contracts, supply and pipeline conditions. By supply I mean available reserves as shown by the deliverability of the wells. By pipeline conditions I mean that gas is a substance which has to be moved by pipelines, and the pipeline companies control the gas market. A consumers' market can be secured at a cost of 25 to 30 million dollars. (T. 765-768.)

The factors which have gone into the making of this price structure in the Hugoton field were that the price was set at a time when the demand for gas was such that the supply greatly exceeded it. As demand became greater, purchasers paid a little more, as is shown by the Warren Company contract in March, 1947, at seven cents. By

destructive competition I mean the type of competition in which the price of gas was set at the lowest figure that the pipeline companies could get by with. (T. 770.)

Waste of gas in well cleaning

It is not necessary to blow wells into the atmosphere before you put them on the line. The thing to do is to blow it into the line to conserve the gas. Normally about 13 million cubic feet of gas are blown into the air to clean the acid out of an average well in the Hugoton field. That is the amount which is actually being blown today before the well is put on the line. This would save in the future 26,000,000,000 cubic feet of gas in the Hugoton field. It would probably take more than one mobile unit, costing about $8,000, to save this gas. They are completing thirty or forty wells a month. It would take two or three days to get the acid out with the mobile unit. The cost of operat-[fol. 503] ing the engine at the well would be about ten cents a thousand of the cubic feet of the gas saved and would require several men. I have not made an exact calculation, but the total cost would be several cents per thousand cubic feet. (T. 772-776.)

• • • • • • •

Reserve necessary for pipeline

It is not good economy to permit gas fields to produce in excess of one-twentieth to one-twenty-fifth of the total reserves during any year. You cannot afford to build a pipeline to take care of 150 billion cubic feet per day out of the area for just a year or two. The enormous expense will not justify it. From the standpoint of a pipeline it is good economy to have this gas over a period of years. As a consulting engineer I would not recommend the financing or construction of a line unless that line had assured reserve adequate for the line for twenty to twenty-five years. (T. 782-784.)

• • • • • • •

[fol. 504] "Questions by Mr. Conway:

"Q. You stated in substance a higher price of gas at this time or in the future would bring about a

lower abandonment pressure, which I recall you stated as around 25 pounds on abandonment pressure. Is that a correct statement?

"A. No, I did not state it quite that way. I said that the higher the price of gas, the lower pressure abandonment of the field.

. . . . . .

"Q. In other words, you say in substance, the higher the price of gas, the lower the pressure at which abandonment will take place?

"A. That is right." (T. 802-803.)

. . . . . .

[fol. 506] Testimony of Dr. John Ise

Direct examination.

By Mr. Fleeson:

(October 19, 1948)

. . . . . .

[fol. 507] Importance of conservation

Conservation is perhaps the most important of our economic problems. We have recognized this particularly recently. Our high standard of living in the United States is due more to our rich natural resources than to anything else. The conservation of those resources is in many respects our greatest problem. It will grow more important as our resources are used up. Resources will seem more important when they are gone. A statement from my "Oil Policy" expresses this view:

"The history of the United States is fundamentally a history of rapid exploitation of immensely valuable natural resources. The possession and exploitation of these resources have given most of the distinctive traits to American character, economic development, and even political and social institutions. Whatever preeminence the United States may have among the nations of the world, in industrial activity, efficiency and enterprise, in standards of comfort in living, in

wealth, and even in such social and educational institu-
[fol. 508] tions as are dependent upon great wealth, must be attributed to the possession of these great natural resources; and the maintenance of our pre-eminence in these respects is dependent upon a wise and economical use of remaining resources. Thus, the question of conservation is one of the most important questions before the American people." (T. 232-233.)

Natural gas is an irreplaceable natural resource

As an economist I would describe a natural resource as a gift of nature in the place and form in which nature produced it. As to the importance to a locality or state or nation, of natural resources lying within its borders, these resources have provided the basis for our high standard of living. As to the relationship of resources in a given community and the welfare of that community, it depends upon the policy followed in respect to those resources. If they are exploited carefully and wisely with due regard to the future, they may be of rich benefit to the community as well as to the nation. We have seldom followed such a policy. Our policy has been to get them out and waste them if necessary. We have exploited most resources wastefully with little or no regard to the future. As a result, in many communities resources have been used in such a manner as finally to make the area worse depressed than it would have been had it not had the resource. (T. 233.)

Gas from the Hugoton field is used largely for the benefit of people in the East, for example, Detroit and Minneapolis. Profits do not usually stay in the Hugoton community. Oil regions in Pennsylvania, Ohio and Indiana and some gas-producing areas in this state are in worse condition than they would have been had there been no oil and gas there. There are areas that have been permanently and seriously injured, where you cannot find [fol. 509] ground water for livestock. You see such areas in connection with other resources. The cut over areas of Michigan and Minnesota; coal areas in the eastern part of this state, where the land is forever ruined. If waste of natural gas is not stopped, it is perfectly possible in the

long run, we will look back and say the state would have been better without any gas.

Not all of our natural resources are irreplaceable. You can produce forests at about three times the present price of lumber. Natural gas is irreplaceable in the sense that you cannot make any natural gas. Manufactured gas can be made at fifty times the cost or price of natural gas. Manufactured gas can be produced as long as we have coal. (T. 233-235.)

* * * * * * *

Relationship between price and use

* * * * * * *

[fol. 511] I agree with the testimony of Col. Ernest O. Thompson, of the Texas Railway Commission, before the Federal Power Commission at Houston, Texas, January 28, 1946, when he said: "Conservation and price go hand in hand. An increase in the field price of gas would be the greatest conservation measure that could be adopted." (T. 238-239.)

I would agree with the statement of Doctor DeGolyer, one of the most distinguished authorities on gas, when in speaking of the conservation of natural gas before the Interstate Oil Compact Commission at Oklahoma City, June 15, 1945, he said: "Adequate price will insure against waste. With adequate price, as I have said before and will say again, there will be no reason to worry about end use and superior and inferior end use of gas. Furthermore, adequate price will obviate much of the necessity for regulation. The greatest conservation factor is not regulation; it is price—price is the control." That is absolutely true. (T. 239-240.)

* * * * * * *

[fol. 512] Establishment of competitive market prices

A market, in a word, is a competitive market. We assume that there are many buyers and many sellers of a standardized product so that no one of them can have any effect on the price. That is what we have in the grain exchange. A market price is established by buyers and sel-

lers demanding and supplying. Under normal conditions an increase in buyers' demand raises the price of the product which is sold, if there is no change in the supply. I will describe in general terms the market conditions relating to oil and coal. In bituminous coal we have a fairly competitive market, even so savagely competitive most years as to make it a distress industry. Overproduction was never as serious as in gas, because the coal output had to be mined. In the oil industry there is a considerable element of competition between regions and fields. As in natural gas, the pipelines do form a monopoly on the buying side, just as the refineries do, to some extent. (T. 241-242.) As to whether prices of oil and coal are rigid and inflexible, or whether they respond to current demands and conditions, they do not change continually like agricultural prices which are purely competitive, but in the price of oil there is considerable flexibility. Natural gas prices are less flexible than those of coal and oil. (T. 242.)

Distinguishing characteristics of market for gas

If you say there is a market for gas, I cannot conceive that it is what we call a market, in economics, where supply and demand meet to fix some sort of competitive price. In the first place, the amount of gas that could [fol. 513] be put on the market in a very short time would be more than the market could possibly absorb for really important uses, perhaps at no price at all. If you drill the Hugoton gas field, gas comes out fast and so easily that the supply is very excessive. In the second place, when it is produced, it cannot be stored like oil and coal. In the third place, the production of gas is often only incident to the production of oil, and gas becomes a distress commodity, even wasted absolutely. Some of the contracts for purchase of gas were made in the early years of very low distress prices which run for many years and the price is far too low. In the fifth place, the demand for gas then was not a competitive demand. Even if there were two pipelines, if the pipelines ran side by side, they would not compete very vigorously where there is such a tremendous oversupply. That left the individual producer in the hands of the purchasers and entirely helpless. He must take

whatever he is offered. In the sixth place, to put the producers at an even greater disadvantage, in some cases the pipelines have production of their own. They are in serious competition with sellers. That violates all conditions of competitive market price determination. In the seventh place, there are many different prices in some fields, which could not be true in a competitive market. Prices of coal and oil certainly respond more nearly to the normal interplay of supply and demand than does the price of natural gas. (T. 242-244.)

Gas wasted more than other resources

Gas has been wasted far worse than any resource I can think of. It is my considered judgment, based on thirty-five years of study of conservation, that we have wasted nine-tenths of the utility that was in the gas we used. The effect on the consumer, of a rise in the price of gas, would be that the big industry users would lose, because they are using gas for less than they would have to pay for other [fol. 514] fuel. On the other hand, Kansas housewives and householders would gain greatly in the long run, because we would have the gas for a long time if it were reserved for higher uses with genuine conservation. By genuine conservation I mean a higher price, which would confine the use of gas to higher uses. A higher price would not produce a hardship on the housewife and householder. In the long run she would gain and our children and children's children would gain.

A somewhat higher price for gas even to the householder would encourage better construction and use of ranges. You would get the same cooking for half the cost with a change in construction of gas ranges. The average house in this state is so constructed that, in my carefully considered judgment, you could heat it with half the fuel it now takes, if the insulation were better. I have had a hobby of insulation for some twenty years. By insulation I cut the cost of heating my house from $200 to $55, thus getting thirty percent on my investment in fuel alone. A saving of fifty percent could be effected in the heating of houses. I would hope that the raising of the price would cut off the interruptible and industrial user, so the gas

would be saved for higher uses. I think the two million people in Kansas are entitled to very careful consideration. They are the people I am interested in. (T. 244-246.)

By Chairman Robertson:

As to whether if natural gas could be converted chemically, domestic use should be curtailed; if they can convert $1.00 worth of natural gas, let us say, to $1.05 worth of chemicals, that would indicate that was good business and the people would benefit by it. A good way to find out whether they could do it would be to put the price up high enough to see what they can do. (T. 246-247.)

By Mr. Fleeson:

[fol. 515] If you have a kettle boiling—I have seen it a hundred times—the cook would have a little simmer burner, a little flame is all you need to keep it boiling, and if you leave it turned up it will burn three or four times as much gas as you need to keep it boiling. That is one of the principal wastes at the kitchen range. As to whether higher prices will affect the industrial development of the state, building of industry, I think most Kansas business men are pretty sharp about such things. They would hesitate to proceed before they would build a very expensive plant on the basis of gas when the production of that gas would last, say thirty years. I welcome industries to Kansas, but I think they should have some permanence and stability. I am not unsympathetic with industrial interests, but it does seem to me the interests of two million people of Kansas, the housewives, are more important than any particular corporate interests. (T. 249.)

There is a striking similarity between the market price of natural gas now and timber and oil in the past. In the early days of the timber industry every one who had any standing timber wanted to sell it immediately, and dumped his part of the supply on the market as quickly as he could. In distress times timber has actually been sold, netting the owners of the standing timber nothing at all. Timber was wasted shamefully. In the case of oil, the story is much the same. I spent seven years studying that. It is

not quite as bad as gas, because in oil the loss is not as great as in gas. It does not come out as fast and it cannot be wasted as fast. If the price of gas were set too high, it might well prevent the sale of gas. I do not think it would be any great loss to the State of Kansas if the price for gas were two or three times the price they get now in the Hugoton field. It ought to be that high. (T. 250-251.)

[fol. 516] As to whether Hugoton field prices for natural gas are less than the intrinsic or relative value of gas in terms of other fuels, economists do not use the word "intrinsic" value. We assume a commodity is valuable because it will bring a price on the market. Comparison of natural gas with other fuels is likely to lead to false conclusions. When you say that natural gas at four cents a thousand is equal to coal at $1.00 a ton, it is clear evidence that the gas is being sold too cheaply. But that is not the entire picture. Gas and coal are two very different fuels. Gas can be burned in the kitchen range with no trouble. You do not have to carry a coal scuttle around. It does not smoke the pans as does coal. It is an entirely different sort of thing and, even as compared with oil, it has considerable advantage. One ought not to carelessly compare gas with coal and oil. Gas has in addition to these main qualities, a lot of other qualities which make it quite a different sort of resource. For many uses, gas is worth easily twice as much as coal. Gas is not always of the same value for the same use for different consumers. It is worth more for individual householders than it is for institutional consumers, such as the University, which burns some gas I regret to say, although it might as well use it as the factories in Detroit. Burning gas saves the individual a lot more trouble than it saves the big industrial users. For instance, the University has ways of handling coal; it has cranes and levers and things of that kind which enable it to handle coal at one-tenth the amount of labor that would be required to stoke the same amount of coal into individual furnaces. So that, even where you have a market for the same purpose, some users will have a higher use. (T. 251-252.)

The lower the price of gas, the greater will be the substitution for other fuels. In fact, if you had a low enough

price, gas would supersede all other fuels for most pur-
[fol. 517] poses; it would drive coal and oil from the market. Ordinarily; the price of a commodity or resource increases when the demand increases. Consumer demand for natural gas was increasing for a number of years prior to World War II. Under normal circumstances you would expect the price of natural gas to rise over a period of increasing demand for natural gas. The price for gas in the field failed to rise substantially in a period of continuous or rapid growth of demand. From an economic point of view the lack of effective ratable taking requirements from a common source of supply makes the producer very anxious to sell his gas rather than let it escape to somebody else's well. It brings a vast supply on the market and reduces the price. If they had effective ratable taking, the owners would not be so anxious to sell. (T. 252-254.)

"Q. From an economic point of view how would you explain the excess of supply and production over effective current market demand in the natural gas industry?

"A. Well, in the first place, the owner of the gas land has to choose between selling the gas now for whatever it will bring and seeing somebody else sell it, in case he never does sell it. In the second place, with ratable taking, the owner of the land, like the owner of most resources, prefers present income to future income because he has to discount the future income at the prevailing rate of interest. Now that is perhaps the most important reason. When there is natural gas with a value of a hundred dollars accruing fifty years from now (estimating six percent rate of interest) the present value would be around $5.75. Accruing a hundred years from now, at six percent, the present value would be seventy-two cents. Seventy-two cents now is the discounted value of a hundred
[fol. 518] dollars payable a hundred years from now.

"Q. That is to say, owners of resources want their income in the years immediately ahead?

"A. They want it now. If they don't get it now they

would have to discount the future income. They are anxious to get it now." (T. 254-255.)

If the price of gas were raised and the gas lasted longer, it would definitely benefit the landowners. A reasonable price for gas would give them a higher income now and for a longer time. (T. 255.)

Relative position of buyers and sellers in gas market

As to the relative position of buyers and sellers of natural gas, the buyers have had every advantage. A large number of sellers almost have to sell for whatever they can get. It is almost purely a buyers' market—if you call it a market. Gas, unlike coal, oil or other resources, can be effectively transported only through pipelines. The economic effect of this characteristic of gas is that it gives the pipeline owners or owners a practical monopoly of the market. If you could haul it away in trucks or tank cars, you would have a different situation. If from a common source of supply a pipeline company, in drawing gas from its own wells, is in position to draw gas from the adjoining acreage of others without payment to them, and, if in addition, connections to pipelines are not assured to wells on such adjoining acreage, the economic effect is a reduction in the price of gas. (T. 255-256.)

. . . . . .

[fol. 519]

. . . . . .

Prices fixed by pipeline purchasers

. . . . . .

As to whether there is in existence on a sufficient scale [fol. 520] to serve as an appropriate and objective standard, competitively determined field prices in the Hugoton field which can be fairly taken as a guide in computing the reasonable value of the gas as a commodity, there is nothing even approximating it. There is no real market as we all use the word "market" in the Hugoton field and therefore no balance is adequate to fix a reasonable competitive price.

. . . . . .

Natural gas most easily wasted resource

Natural gas is probably the most quickly exhaustible of natural resources and the one most easily wasted. It is volatile and cannot be retrieved once it escapes into the atmosphere. Its waste is not as readily apparent as the waste of oil or coal. For these reasons probably a greater proportion of natural gas has been wasted than have been the reserves of any other mineral. (T. 261-262.)

Higher price stimulates development of substitutes

When the supply of an exhaustible resource is declining and reaching a vanishing point the price goes up. The effect of such a higher price is to stimulate the development of substitutes. The economic effect which the es- [fol. 521] tablishment of higher prices for natural gas at the present time would have upon the long range prices of natural gas is that higher prices would level out both consumption and price over a period of time. The higher price would bring everybody face to face with a situation they are going to have to face soon, anyhow. In the absence of regulation, when natural gas becomes scarce, the price will go higher to the point where it sells in competition with artificial gas. If the higher price were established now for this fuel, that would tend to postpone the excessive prices to a later period. The sooner the price for natural gas goes up, the more encouragement there will be to develop substitutes. Nothing will encourage invention and the development of substitutes more than higher prices will. If we have no real substitutes for an expendable natural resource such as gas, we ought to find out while we still have a supply of the resource. There is no better way to find out whether there is a substitute than by increasing the price of the commodity and then bringing us face to face with a situation that calls for substitutes if they can be developed. It is better we develop them now than later. It would be worth while now to conserve our resources and we would have a more stable industry than we have at the present time. High price for gas would immediately put the chemist to work getting a substitute for carbon black. I don't know why he has not done some-

thing about it now, because it is a very wasteful use of gas. (T. 262-264.)

Objective standards for efficiency of use

When I say domestic uses of natural gas for cooking and space heating are the most efficient uses, that does not reflect my value judgment, but is on the basis of an objective standard. Domestic users are willing to pay more for gas than anybody else. That means they get [fol. 522] more utility out of it. People want gas for cooking and space heating, even if the price becomes much higher than it is now. The more expensive a commodity is, the more efficiently it will be used. A rise in the price of gas for the use of making carbon black would give added incentive to increase efficiency in its manufacture. Some of those plants are much more efficient than others. An increase in the price of gas might materially be reflected in the price of the finished product, such as carbon black, and set our engineers and technicians to work. The chemists can do wonders if they just have an incentive. (T. 264-265.)

Factors to be taken into consideration in determining price that will influence proper conservation

As to the factors that should be taken into consideration in determining a price that will influence proper conservation, I think the possibility of developing a substitute is one of them. Another is the quantity of supply and reserves. Another is balancing the present wants against future wants and the interests of the present generation against future generations. If substitutes for natural resources are available, a price equal to producing adequate and satisfactory substitutes will, in my opinion, insure proper conservation. In a common source of supply there is no indication that gas will be conserved by the speculative withholding of gas from the market by present owners of the reserves awaiting higher prices. There is so much competition among the landowners to get their gas out and sell it before somebody else does, that it would be

impossible. Everybody wants a little now, and a little is better than nothing. (T. 265-266.)

• • • • • • •

[fol. 523] Testimony of COLIN C. RAE.

Direct examination.

By Mr. Stucky:

(October 18, 1948)

Qualifications

I live in Tulsa. My profession is that of an engineer. I am a graduate of the University of California. For the past thirty years I have been in the oil and gas business as a geologist, engineer and executive. I have been an engineer for the United States Geological Survey. For the past fifteen years I have been in the production department of the Skelly Oil Company and I am now an executive in charge of natural gas production for that company. (T. 127.)

Terms of purchase in the Hugoton field

The Skelly Oil Company is a producer of gas in the Kansas Hugoton field and also owns royalty units in gas production in the Oklahoma Hugoton field. Our royalty interests are in the neighborhood of 700 or 800 acres and we own about 140,000 acres of leaseholds in the entire Hugoton field. About sixty-nine full-interest and seven or [fol. 524] eight part-interest wells are drilled on this acreage. Our wells are presently connected with pipelines carrying gas to markets out of the Hugoton field. Nine of the part-interest wells are connected to Northern Natural, and the other wells are connected to Cities Service. Our production to Cities Service is in Oklahoma. Our production to Northern Natural is in Kansas. (T. 127-129.)

Our company sells gas to Northern Natural at four cents on a contract for the life of the lease. At the time we made that sale, we took the usual form of contract of Northern Natural which they presented. They would not

change that form in any way. I personally participated at conferences on behalf of my company in an attempt to secure this connection with Northern Natural. I had these conferences with Mr. Hanley and Mr. Bay, the president. (T. 129.)

* * * * * * *

Price of gas under private contract for industrial use in Kansas is based on comparative price of other fuels

Our company is also a buyer of gas. Over the state of Kansas we have a good many oil producing leases where the natural gas supply has been exhausted. It is necessary to buy gas for the operation of these leases. We also buy gas for our pipeline operations and as a fuel in our re-[fol. 525] finery in El Dorado. We take delivery of gas at various places throughout the state. (T. 131.) We purchase gas for our refinery at El Dorado from Cities Service Company under a contract which was presented by them. The contract has been in existence for several years. It has been renewed three or four times, the last time in 1946. The price which we pay Cities Service for gas under this contract is based on the comparative value of other fuels. It is based on the price of crude oil. For each ten cent rise in the price of crude oil we pay an additional one cent for our gas. Fuel oil is made from crude oil. As crude has gone up in the last two years the price we pay for gas under the contract has been raised. (T. 131-132.) Until around September, 1946, we paid around 9.3 cents for gas under the contract. For the last several months we have been paying 21.6 cents. The rise has been approximately twelve cents per thousand cubic feet over a period of two years and it is based on the rise in the price of crude oil. That is the usual form of contract which Cities Service Gas Company uses. Kanotex at Arkansas City, Magnolia at Augusta, and the El Dorado Refining Company at El Dorado are all paying approximately the same amounts in such contract, close to twenty-two cents a thousand, for gas from Cities Service. (T. 131-133.)

Field price of gas is now fixed by pipeline companies

As to the relative bargaining position of sellers of gas and buyers of gas in the Hugoton field in negotiations concerning connections with pipelines, I do not quite understand the question. If you mean just what bargaining power the producer has in the Hugoton field, my answer would be that he has very little bargaining power. He takes what the gas companies ask him to take and require him to take. We were not able to get a "favored nation" clause into our Kansas contract. There is very little negotiation [fol. 526] with regard to the price and conditions of sale in these producers' contracts. You simply agree to take what is offered to you and you are forced to take those contracts. We attempted to get a "favored nation" clause. I don't know of any purchaser who has offered to base the price in the field on competitive fuels. The increase in the cost of gas to Skelly, under the contract with Cities Service, is approximately $1,000 a day over the prior period. (T. 133-134.)

By Commissioner Stiles:

When we made the contract with Northern Natural, none of the other purchasers would buy our gas. We sat there for eight or nine years, with a cost of a million dollars, and nobody would buy our gas. We paid rentals; we spent money on the leases, and because of the lack of market we were finally forced to surrender those leases and get out, because we were not able to get a market. Discrimination exists in the field when Kansas citizens, royalty owners of two and a half million acres, are still receiving four cents under such contracts, and others are receiving 7 cents or 7½ cents, sometimes paid by the very same pipeline company. If you had the same condition in the oil fields, paying different prices on old wells and on newly finished wells, you would have a lot of complaints. I know of my own knowledge that the Hope Natural Gas Company, one of the largest companies, has contracts on the books that range from four cents to seventeen cents, but they are paying the going price regardless of the contract price, to keep the good will of their customers. (T. 133-135.)

Cross examination.

By Mr. Cullison:

(October 18, 1948)

. . . . . .

Skelly is a strong company financially.

[fol. 527] By Mr. Stucky:

As a practical gas man, I had no alternative other than to seek that contract in the Kansas field and the Oklahoma field. I spent a few years trying to get a market. The landowners owning the land on which these wells were located have nothing to do with the contracts which we enter into to market the gas from their wells. The operator represents the royalty owners to the best of his ability in wo-king out the best possible deal in their behalf. We do the best we can for them. (T. 148.) At that time Northern Natural was put-
[fol. 528] ting on a drilling campaign for more wells right in the area where our wells were located. At the time our wells were unconnected and we were seeking connections, Cities Service had considerable over 100 wells that were producing in the immediate vicinity and marketing gas. They undoubtedly were in a position to produce their own wells pretty heavily in the area to supply the market. Northern Natural was also producing from the common source. We had twenty-five wells unconnected and we were assured by one of the companies it was impossible to give us any market at all. (T. 148-151.)

Witness excused. (T. 152.)

Testimony of Dr. Eugene A. Stephenson.

Direct examination.

By Mr. Fleeson:

(October 19-20, 1948)

Qualifications

I am a university professor on leave from the University of Kansas. I graduated with a Degree of Bachelor of

Science from Adrian College, Michigan, in 1905. I have a Degree of Doctor of Philosophy from the University of Chicago in 1915. My major studies involved geology, chemistry and physics. I am a member of the Institute of Mining and Metallurgical Engineers, American Association of Petroleum Geologists, American Association for Advancement of Science, member of Sigma Xi. I have been chief geologist and petroleum engineer for the South Penn Oil Company, associate and vice-president of Ralph E. Davis organization, 1925 to 1930. Until 1937 I was with the University of Missouri, School of Mines and Metallurgy. In 1937 I became head of the Department of Petroleum Engineering at the University of Kansas and retained that position until a year ago, when I was placed on leave. In 1943 and 1944 I was Executive Director of the [fol. 529] University of Kansas Research Foundation. Since 1930 I have served as consulting engineer for the United Gas Company and a subsidiary, Union Producing Company; for the Gulf Oil Corporation; for the Shell Oil Company and for other oil companies as follows: Stanolind Oil and Gas Company, Danciger Oil and Refining Company, The Texas Company, Standard Oil Company of Ohio through their subsidiary the Sohio Petroleum Company, Atlantic Oil and Producing Company, Lion Oil and Refining Company, Carter Oil Company, Phillips Petroleum Company, and others. Since 1940 I have been the Kansas representative on the Engineering Committee of the Interstate Oil Compact Commission. A great deal of my work has been spent in the study of the production problems of oil and gas; methods of conservation of oil and gas, well spacing, and in management studies. I have made studies covering the following oil and gas fields: Panhandle Area, the Ranger field, the Big Lake field, Yates field, Hendricks field; East Texas, Carthage, Refugio and Pledger; the Tom O'Connor field, Greta, Breckenridge, the Cole and Bruni field, the Auga Dulce field, White Point, and other fields in Texas; in Louisiana my studies have covered Monroe, Richland, Redessa, Wascon, Elm Grove, and Cotton Valley pools. In Oklahoma: Burbank, Healdton, Chickasha, Seminole, Sayre, Oklahoma City, West Cement and West Edmond pools. In Arkansas: the Arkansas, Smackover, McKamie, and Shuler. New Mexico: Several in the pools

along the trend between Hobbs and Jal and Artesie; Mt. Pleasant and Muskegon, Michigan. In California: Elk Hills, Buena Vista, Kettleman Hills, Ventura Avenue, Dominguez, and Signal Hill pools. In Wyoming: Baxter Basin, Fremont Dome and Salt Creek. In Montana: Sweet Grass Arch. In Kansas: the Otis, Cunningham and Hugo- [fol. 530] ton fields. I have published numerous articles dealing with oil and gas field engineering problems.

(The witness then gave the subject, the periodical, and the date of some ten or fifteen published articles which he had written.) (T. 267-273.)

Estimates of gas reserves

Engineers can estimate with reasonable accuracy gas reserves within a particular pool. Primarily there are two methods: One known as the porosity pressure method, and the other known as the pressure production method. The method used depends on the information available. In fields where there is excellent data as to pressure and production during known intervals of time, we much prefer to use pressure production method in the estimation of reserves. (T. 274-275.)

Special studies of the Hugoton field

I have made a special study of the Hugoton field for several different periods. Prior to 1939 I made a study for the Kansas Corporation Commission of the relation of the amount of gas present under any particular tract at the time the field was discovered, compared with the gas which had been produced from wells on those tracts and also of the total gas reserves of the field. I ascertained, at that time, that some of the wells had produced more than the gas which underlay the surface. We showed that some wells had produced ten times as much gas as could possibly have existed under the particular tract. These wells are still producing and any gas produced in the future from those tracts represents gas which has migrated from someone else's property on to the property where the well is located. (T. 276-277.)

* * * * * * *

[fol. 531] Advantages of using gas

Coal is used less efficiently. About fifty-five to sixty percent of the total available heating value of the coal is utilized in the ordinary domestic burner. A stoker may rarely get as high as seventy-two percent. The average [fol. 532] is sixty percent. Efficiency of natural gas is much higher; even in the ordinary household furnace it is about eighty percent. Efficiency of oil runs from seventy to seventy-six percent. The average is about seventy-four. (T. 289.)

Gas is the cleanest fuel of the three. There is no dust and no ashes and under ordinary conditions there is no smoke, even if used carelessly. The high temperature obtained from gas is achieved almost instantly, which is not possible with either coal or oil. The use of gas permits the local application of heat, either for space heating or or for ranges, and with inexpensive installations. Gas insures uniformity of heating value over the life of the field from which the supply is obtained. No storage is required, as is the case with coal and oil. Gas can be used for refrigeration. Speedy and accurate thermostatic controls are possible with practically no attention. Gas is adaptable to use for intermittent high and low temperatures required in industry, such as burning gypsum to make plaster or in the ceramic industry in the annealing of metals, where ranges of temperatures and precise heats are needed. Some of the advantages I have mentioned compare with both oil and coal. Gas has all of these superior features and no untoward features as in the case of these other fuels. (T. 289-291.)

. . . . . .

[fol. 533] Value of wellhead gas in Hugoton field

. . . . . .

[fol. 536] As to what I consider the value of natural gas at the wellhead, I have given a great deal of thought to that. This mathematical analysis showed that, depending on the different load factors, the values would range all the way from fifteen cents to as high as forty cents a thousand cubic

feet, depending on the price of coal within the ranges suggested. The Federal Power Commission does not give the transmission companies the benefit of any leeway on cost, and it is quite possible that my figures which are based on their figures are a little low on cost. Some of them might be ten percent too low, so the value of the gas studied might be as much as ten percent too high. In my opinion the value of the gas at the wellhead in the Hugoton field is somewhere between ten and fifteen cents a thousand cubic feet. (T. 298-302.)

That, however, does not take into consideration the gasoline content of the gas, all of which is taken out of the gas by the pipeline company before it is ultimately marketed. I estimate there is five-tenths of a gallon of gasoline for each thousand cubic feet of gas. That is shown on Exhibit 21.

* * * * * * *

[fol. 537] Testimony of WILLIAM BROADHURST.

Direct examination.

By Mr. Fleeson:

(October 20, 1948)

I live at Tulsa and I am vice-president and treasurer of Helmerich & Payne, Inc., and White Eagle Oil Company, and one of the managing officers of those companies as far as the natural gas and oil business is concerned. (T. 304.)

I am familiar with the Kansas Hugoton gas field, in which we own or operate approximately seventy-five gas wells on 50,000 developed acres. We brought in our first well about 1936. It took us seven or eight years to get a connection for that well. One well was connected about four years later and more about seven years later. I have had twenty-five years of actual experience in drilling and developing oil and gas properties and am familiar with the operations of the basic proration order of the Kansas Corporation Commission. (T. 304-305.)

[fol. 538] Differing prices for gas in Hugoton field

I am familiar with the prices paid for gas at the wellhead in the Hugoton field. The landowners and producers do not receive uniform prices for gas. The approximate range of prices we receive is from four cents to six cents. These differences in price do not reflect the difference in the quality of gas, except that some contracts state that if gas has a Btu content of less than 950 or 925, the price is proportionately decreased. I never heard of any premium paid for gas which has a higher Btu content. (T. 306-307.) These differences cannot be explained on a difference in the deliverability of the wells, nor can they be explained as being the result of differences in the location of the wells. We have built our own gathering lines to the pipeline companies' line on all of our wells, until we made another arrangement with Colorado-Interstate just last year. We spent over $250,000 in building lines. The price is the same for gas whether you lay a line two miles or fifteen miles. We have laid lines twenty-two miles in order to connect our wells, after the wells have lain dormant for some seven or eight years. The explanation for the differing prices for gas of generally the same quality in the same general location, produced under the same or identical pressures is that these various prices at the wellhead were established when the producer was forced to market the gas and he had to take whatever the purchasing company would give him. In one instance we were forced to lay over twenty-one miles of line, under a court order, to satisfy the royalty owners. We got no more for the gas than we did for other gas of the same quality. These prices were obtained under distress conditions. At the same time the producer was forced to dedicate the acreage for the life of the lease. In order to get any price we had to dedicate forever. We did not want to do it, but were forced to. We had to market the gas or lose our [fol. 539] leases. I know of absolutely no basis or reason why one landowner should receive less for gas from a common source of supply than his adjoining neighbor receives for his. The differences in the price of gas in the field might be partially explained on the relative amount of acre-

age which a seller is in position to dedicate. The best illustration of this is that the Republic Natural Gas Company received one-third more for their gas by dedicating a large amount of acreage than did other producers for near-by gas. The royalty or landowner has no control over the amount of acreage other than his own, that his lessee may be in a position to dedicate to a pipeline company in a purchase contract. When the operator dedicates the gas from his land he has nothing to say about it. I have always thought he should have. The landowner and royalty owner are never consulted. His producer dedicates his land without any consultation with him. Whatever the producer has done, he has been stuck with it whether he likes it or not. (T. 306-311.)

Proration alone does not protect correlative rights

Since the Hugoton field is an indivisible physical unit, both as to structure and contained energy, proration alone does not fully protect the correlative rights having an interest in this common reservoir. Proration does not require the purchasers of gas to purchase from unconnected wells. Unless a producer or landowner can market the allowable given his well by means of a connection with the pipeline, underground drainage across property lines continues and the correlative rights of the various property owners are not protected. Both proration and ratable taking are necessary. All the producers in this common source of supply do not have an equal opportunity to sell or transport gas from their wells. The companies that own the transmission lines have a distinct advantage, for [fol. 540] the reason that they can take gas from their own wells and from wells from which they are producing under contracts previously made. This unfair situation continues to exist. I am about to drill a well in now and I cannot get a connection without dedicating that well. (T. 311-313.)

Effect of uniform price

Underages in production result when some pipelines are overconnected and others are underconnected. This could easily be adjusted if the purchasing companies

cooperated with each other by interconnecting their pipelines and equalizing this difference. The effect of a uniform minimum price at which gas could be taken out of the producing structures in the Hugoton field would be that it would solve this problem of underages and overages and encourage pipeline companies having a larger market for gas to exchange or purchase gas from companies having a smaller market. At the present time wide differences in price make difficult the problem of interconnection of pipelines purchasing gas. (T. 315-316.)

We have been required to build our own pipelines to the main pipeline of the purchasing company on thirty-eight of our wells.

We invested $7,000 in lines on the Campbell No. 1 well; $2,000 on Campbell No. 2 well, $3,000 on the Orr No. 1, $7,000 on Hyde No. 1, $44,000 on Jones 1 and 2, $11,000 on Citizens Building and Loan Nos. 1 and 2; $2,000 on the McKee; $20,000 on the Elliott; $60,000 on the Trimpa System; $96,000 on the Elliott System, 15 wells; $5,000 on the Hyde; $6,500 on the Royce; about $8,000 on Tate No. 1 only recently drilled; a total of approximately $265,500 without the Tate well.

We did not get any better price for our gas delivered at the pipeline company's own line than other producers of [fol. 541] gas in the same area got for their gas at the wellhead. We did not get as much as some of them did. (T. 316-317.)

Relative bargaining position of sellers and buyers of gas

I have negotiated with Northern Natural, Panhandle Eastern, United Production Company, Kansas-Nebraska and Colorado Interstate in an effort to obtain contracts for the purchase of gas in the Hugoton field. In this connection I have dealt with Mr. Bert Bay, Mr. John Hanley, Mr. Kraft and Mr. Brooks of the Northern Natural; Mr. Nelson and Mr. Staats of the United Production; Mr. Pope of Panhandle Eastern; Mr. Beardsley and Mr. Benson of Colorado Interstate. As to the relative bargaining position of sellers of gas and buyers of gas in the Hugoton field in negotiations concerning con-ections

with pipelines, the producer is just at the mercy of the gas purchasing company. That is true today, as is demonstrated by the fact we are now selling gas at four cents per Mcf through our own gathering system, which cost us approximately $150,000, to United Production Company, with a contract subject to cancellation by either party on six months' notice. They are not desirous of purchasing the gas. We sell it to them because there is no other market. We sell to them at this price because there is no other market. We sell to them at this price because it is the best we can get and we have to sell to someone, as our gas is being drained. (T. 317-318.)

We have one well located in the center of the area in which these other wells are located. On this one well we built a pipeline to Northern Natural which is 4½ miles long. That is how far those wells are from the market provided by another pipeline. We do not close our wells down because, if we would, we would be drained; we need the money and we do not want the farmers to sue us. We were sued once and had to lay a line in order to save a [fol. 542] 7,000 acre lease. (T. 318.) We are selling gas for more money than that to Colorado Interstate and Panhandle Eastern, but we do not sell gas from these wells to Colorado Interstate, because they would not take it. (T. 318-319.)

No market price in Hugoton field

There is no market price for gas in the Hugoton field; that is, there is no price being paid by all companies, available to all producers such as there is in the oil business. We have gas from our wells going into the same pipeline at different prices. We are selling gas at the wellhead in Section 14-31-34 Seward County, to Panhandle Eastern for four cents. Two miles north of this well Cities Service and our company jointly own the Hyde well. We are getting 4½ cents for gas from those wells, delivered to the same Panhandle Pipe Line. The same situation exists in Haskell County where we own an interest in the Wright No. 1 well, the gas from which is being sold to United Production at six cents. We sell gas to the same company going into the same pipeline from twenty-five other wells

in adjoining sections offsetting this well, and delivering the gas for 4 cents. United Production contract was made in 1945. One Panhandle contract was made in 1945; the other in 1947. We have no contract with United Production on the well at which they are presently paying six cents. (T. 318-320.)

There is a situation where we are compelled to pay the royalty owner more than we are getting from the pipeline company for our gas. On the Tate No. 1 well we sell to Northern Natural at four cents measured at two pounds above atmospheric pressure. The government requires us to pay royalty on the basis of five cents measured on ten ounces above atmospheric pressure. The comparable price to the four cents price Northern Natural pays us on the ten ounce basis would be about 3½ cents. (T. 320-321.)

[fol. 543] Cross examination.

By Mr. Adams:

(October 20, 1948)

Companies in which I am interested first obtained oil and gas leases in the Kansas section of the Hugoton field in 1936. They were in Finney, Kearny, Haskell and Seward Counties and covered about 50,000 acres. We got these leases for the drilling of five test wells. The original wells were Hyde No. 1 in 14-31-34 Seward County; Elliott No. 1 in 30-29-33, Haskell County; Trimpa No. 1 in 28-28-33, Haskell County; Jones No. 1 in 34-26-34, Finney County; Jones No. 2 in 36-26-35, Kearny County. Each of these wells was drilled to the gas producing formations, at about 3,000 feet. We had twelve months to drill on each block. Drilling was completed in 1937. The various lease acres were perpetuated by the production from each of these wells, ranging from 5,000 to 8,000 on some wells, up to approximately 10,000 on others. We also had to pay an annual advance royalty on each lease. (T. 326-328.) It cost approximately $24,000 to $25,000 apiece to drill these wells.

When we drilled the Jones No. 1 well we knew that Argus had a pipeline north of the well. We checked into

the pipelines, but we thought it would be possible to get a market if we got the wells. An Argus line was some twenty miles east of us. The closest line was a six inch line fourteen miles north of us. I do not know how many wells were connected to that line. Northern Natural had one or two wells. Ross Beach had two or three. Northern Natural would not take our gas. The only way we got a market was when Judge Hopkins put it into a journal entry; he told us to lay a line to them and he would see we got a market. Northern Natural and Argus were not parties to the litigation before Judge Hopkins, but they had a lot to do with it. We built a line to connect with the six inch line fourteen miles away, both from the Jones No. 1 and Jones No. 2, making a total of about eighteen [fol. 544] or nineteen miles. This was done in 1944. The line was a four inch line and cost us about $44,000. This was the closest market to which we could connect.

I went over to see the Sugar company in Garden City about selling gas to them, but as soon as I made them a price Northern Natural came along and underbid me. My price was eight cents delivered to the plant. (T. 329-332.) We transported the production from Jones 1 and Jones 2 a total of eighteen miles and sold the gas at four cents. We endeavored to make a charge against the royalty owners for carrying the gas, but they would not stand it. We finally adjusted and paid the royalty owners the same price we got for the gas. We have had about 82 million cubic feet of canceled underages on the two wells. (T. 333-334.)

With reference to the Hyde No. 1 well in Seward County, we market that gas to the Panhandle Eastern. We built two lines on that well. We built one line when they said they would take it, and then they wouldn't do it and we took the line up. We finally built a second line and got them to take it during the war. We have sold $5,793 worth of gas out of that well, which was finished on February 28, 1937. It was not until 1944 that we got into production. We laid a line over to Panhandle Eastern and did not get a market. We had to recondition the well, acidize it, and made a fair well out of it in 1944. I wrote a dozen letters just begging and pleading with

Panhandle Eastern to take the gas. I made four or five trips to Kansas City. I did everything in the world to get them to take the gas and I finally got them to take it in 1944. It was about a mile and a half from their pipeline. The pipeline cost us about $4,000. The gross income, including the royalty, has been $5,793. The well was completed February 28, 1937; the purchase contract [fol. 545] was dated May 31, 1944, and it was connected shortly after that. (T. 335-338.)

As to the Jones wells, we have sold off of the No. 1 well $26,214 worth of gas, and off the Jones No. 2, $31,875 worth of gas, and the expense of operating has been about $6,000 per well. The cost of the Jones No. 1 well was $28,288, and the Jones No. 2 was $30,131. The Jones wells started to deliver gas March 12, 1942. (T. 338-340.)

With reference to the Elliott No. 1, the Northern Natural's pipeline was five miles south of it. I made four or five trips to Omaha and I threatened, begged, and everything else I could think of. I finally got them to say they would take the gas if I would lay a line down there. We started transporting gas from that well to the market in 1940, after building a five mile, four inch line, at a cost of $20,000. Our income from that well has been $35,599. (T. 340-341.)

Referring to the Trimpa well, it was about nine miles from the Argus line, running south of Garden City, but we ultimately marketed the gas to the United Production Company, to whom we laid about five miles of line, selling the gas at four cents. The line cost us approximately $60,000. We pay our royalty owners four cents. (T. 341-342.)

We have six or eight sections of undeveloped leases at the present time. We have contracted for the sale of gas on six of these, to Colorado Interstate Pipe Line Company. We had some twenty wells when we made the contract. The undeveloped acreage was included in the contract. We dedicated a certain amount of acreage and it is all drilled, except six sections. (T. 352-353.)

On two other sections we have no contract and the gas is being sold on a temporary basis. We tried to sell it to Colorado Interstate, but they said at the present time they

could not give us a connection or furnish a market. This [fol. 546] acreage is located in Finney County, Sections 5 and 6. Colorado Interstate is our closest market. (T. 353-354.)

Witness excused. (T. 364.)

Testimony of C. E. Waite.

Direct examination.

By Mr. Stucky:

(October 20, 1948)

Occupation and experience

I live in Tulsa. I am vice-president of the Pioneer Petroleum Company. I have been connected with the oil and gas business for about thirty-three years and have had experience in supervision of drilling and producing of oil and gas, and have acted in the capacity of executive for the past twelve years. My duties in connection with the operation of my company in the Hugoton field include all matters pertaining to the company's business, including drilling, producing and securing of connections. Our company produces gas in the Hugoton field. We have 2,240 acres and four producing wells. (T. 365-366.)

The Pioneer Petroleum Company first entered the field in 1928, when they leased a block of approximately 14,000 acres in the southern part of Stevens County. In 1929 we gave the Trees Oil Company fifty percent of our acreage in return for which they agreed to drill a well. The well which was drilled in 1929 was the second well in the field. (T. 366-367.)

Our company drilled its first well in the Hugoton gas reservoir in September, 1930. It was one of the early wells in the field. Five or six other wells were drilled the same summer. It is known as the Beavers No. 1 and is located in 1-35-38. It had an open flow of 8 million. The next wells were drilled shortly after, three during the latter quarter of 1930, and the last one being drilled in Decem-

ber. The Eby and Dunne wells are located in 16-35-38 and the Morris in 29-34-38, Stevens County. The open [fol. 547] flow of the Eby was 12 million; of the Morris 4 million. The Btu content of these wells ran from 1,025 to 1,040. (T. 366-368.)

Unconnected wells

The Beavers, Morris and Eby are approximately eight miles from the Panhandle twelve inch line. The Argus Gas Company line is within a mile and a half of our properties. After these wells were completed we were not able to market gas from the common source of supply, because the producing companies told us they were in there for the sole purpose of transporting their own gas and not interested in marketing gas from other companies. We interviewed them many times after the wells were drilled during the six years they were unconnected. We talked with Mr. Buck Freeman and Mr. Bert Bay, now president of Northern Natural and at that time with Panhandle. (T. 368-369.)

We could not pipe the gas. That would have been impossible. There was no market close. With the small amount of acreage we held it would have been impossible for a small operator to lay a line to a market. All that the landowners on the acreage attributable to these wells received in money before they were connected was bonuses and rentals. The drilling of the well did not mature the lease. In 1933 we renewed practically all of our leases and dropped some at that time. We paid a dollar an acre for renewal. The three wells were unconnected for about six years. We were constantly endeavoring to make connections for the wells and tried from every angle. We offered to build a pipeline from the wells to the closest trunk line of the pipeline companies. In the summer of 1936 we entered into a purchase contract with Panhandle to lay a six inch line to their trunk line. Exhibit 26 is a copy of that contract (abstracted at C. A. 207). The [fol. 548] price was four cents with the provision that three cents would be paid until $13,495 was withheld as part of the labor cost of constructing the gathering lines to Pan-

handle's trunk line. Through the payment of one cent per cubic foot over a period of time we paid the labor cost of building the line. It was our understanding that the line was built exclusively for Trees and Pioneer properties for any future development. Subsequently the pipeline companies made other connections on this pipeline on which we had paid the labor cost. They connected as many as twelve to fifteen wells on this line. (T. 369-371.)

Factors entering into decision to accept fixed price contracts

The pipeline company insisted that the contract be for the life of the production. As to the factors which entered into the decision to accept those contracts after six years, after constant expense of rentals and other costs going on over that period of time we had no alternative but to take what we could get. During the time these wells were unconnected our company was forced to drop the other leases. We had 7,000 acres after we had given Trees 7,000. Of that acreage we developed 2,240. We did not develop additional wells during this period of time because of discouragement by the pipeline companies to small operators in the Hugoton field, unless they had an outlet for the gas. I have personally heard responsible officials of the pipeline companies make such a statement, including Mr. Freeman and Mr. Bert Bay of the Panhandle Eastern Company. Our company paid as delay rentals and bonuses on this block of [illegible]es during the time the leases were unconnected the approximate sum of $40,000. (T. 372-373.) These three wells were drilled in the latter part of 1930 and we got connections in the late fall of 1936. During this period of time, to my knowledge pipeline companies [fol. 549] were producing gas in this vicinity within the common source of supply. (T. 374.)

Loss of pressure on unconnected wells

In November, 1937, we completed our Williams-Parli well, in 12-35-38, Stevens County, which was 7,900 feet straight south of our Beavers well. The Kansas City office of the Panhandle Eastern Company recommended

that we drill this well, inasmuch as we had three wells producing and the Trees Oil Company had five wells in the vicinity. We had a four inch gathering line running from the Panhandle Eastern line to the Beavers well. That is the line on which we paid the labor cost. Immediately after we drilled the Williams-Parli well we laid 7,900 feet of four inch line up to the meter house of the Beavers well. The Williams-Parli had an open flow of about 7½ million and was increased by acidization to approximately 16 million. Its Btu content was about 1,038. While the shut-in pressure on the wells which we had first drilled was approximately 434, the shut-in pressure on the Williams well was 426. We lost between five to eight pounds of pressure on the three wells during the six years they were unconnected. (T. 374-376.)

Difficulties in securing connections

Before we drilled the Williams-Parli well I talked to Buck Freeman and Bert Bay and they recommended consolidation of acreage in drilling one more well in the southern part of the field. This was in the latter part of March, 1937, in Kansas City. I protested about having so much invested in the line down there and having only three wells on it. They recommended that we drill another well and they would give us a connection. (T. 376.) After the well was completed we were not able to market gas from this common source of supply. The well remained unconnected for about seven years, although we laid a [fol. 550] line from the Williams well to the meter house on the Beavers. The pressure on the Williams well diminished from 426 to 399 during the seven years it was unconnected. Within thirty days after the well was drilled I made a trip to the Kansas City office of the Panhandle Eastern. I first met Mr. Freeman, who told me one reason he was hesitating to connect was that during the time we were planning on drilling this well Trees had drilled some additional wells and to make our connection they would be forced to connect with six or eight wells of Trees that they completed during that summer. I talked to Mr. Bert Bay immediately after I talked to Mr. Freeman and the conversation was about the

same. He told me that the New York office just refused to let him make a connection. A short time after that I made another trip, possibly two or three weeks later. He told me one way he might bail us out was to pay us two cents for the gas and sell it as boiler gas back in Detroit. That was in January, 1938. (T. 377-379.)

The cost of drilling the three other wells was $77,000. In addition, we paid bonuses and rentals amounting to $40,442. Our cost of drilling the Williams well was $14,180. (T. 379.) We sought connections with other companies for the Williams well. We contacted Republic, which had a line within a half mile along the south eighty the well was located on. We protested during the war to the Federal Power Commission and the War Production Board and several other state and federal regulatory bodies. We wrote letters to them, protesting to them, explaining the waste of some 1,100 tons of material in the ground while pipeline companies were drilling other wells. At that time there were twenty-two unconnected wells in the field. At the same time Northern, Panhandle and other companies were drilling wells during the war and the steel shortage. (T. 379-380.)

[fol. 551] We obtained temporary connection during the war, with the Northern Natural Gas Company. Republic hooked up to our gas well and transported it to the Northern system in 1944. This temporary connection was obtained through the offices of the federal war bodies. We did not lay a line to the Republic line. They furnished a line approximately 1,500 feet. Exhibit 27 (abstracted at C. A. 208) is a copy of the temporary contract we had with Northern Natural on the Williams well. (T. 381.)

Ninety days after the cessation of hostilities, we were cut off from the market on this Williams well and it remained unconnected for another three months. I immediately contacted Mr. Hinton after the well was disconnected. He stalled me along for two or three months and told me eventually he would send me a gas purchase contract that would be at the rate of four cents. He did offer to purchase the well. That was before he agreed to take the gas. One offer was for as much as $25,000 for the well and the acreage. That would have been a sale at a loss so

far as we were concerned. Exhibit 28 (abstracted at C. A. 208) is the contract finally entered into by us for the purchase of gas from that well for four cents to Panhandle Eastern. The pipeline company did insist on a fixed price for the life of the contract. (T. 382-383.)

Unconnected well having an allowable

This well was unconnected during the time proration was in effect. We finally received an allowable under the proration order, until we had an underage of better than 256 million cubic feet during the time the well was unconnected. During this same time other wells were being drilled by Republic, Northern Natural and Panhandle Eastern. These three major companies were marketing gas from their wells which were within two miles of our wells. They were marketing gas within two miles of our [fol. 552] wells when our three wells were unconnected. Our landowners received one-eighth royalty and whatever bonus and rentals they get on the acreage. The virgin pressure on the Williams well was 434 at the time we drilled it. The shut-in pressure is now 374. (T. 384-390.)

Relative bargaining positions

As to the relative bargaining position of our company and the pipeline companies in negotiations in which we sought connect-ons for our wells, at the time I took over the management of Pioneer Petroleum, in 1935, I immediately contacted Panhandle Eastern and asked for a connection. I made many trips to Kansas City and finally became a nuisance, I guess, crying on their shoulder and begging for a connection. The same was true with the Williams well. I have had some correspondence with the pipeline companies with respect to connections for these wells. Exhibit 29 (abstracted at C. A. 209) consists of six letters representing correspondence of our company with various pipeline companies regarding our efforts to secure connections. (T. 390-391.)

(Sheet 1 of Exhibit 29 is a letter dated January 5, 1942, addressed to Mr. Waite, by the vice-president of Panhandle Eastern Pipe Line Company, from Kansas City, stating as follows:

"Receipt is acknowledged of your letter of December 31, 1941.

"Since your visit to Kansas City we have again reviewed quite carefully our files and records with respect to your Williams well, and I have also had occasion to again discuss the matter at some length with Mr. Creveling, President of our company, and I regret to advise that the prospect of contracting for the purchase of gas from this well is not very encouraging at this time.

[fol. 553] "As we have indicated numerous times in the past we have never felt, and do not now feel, under any obligations to purchase the gas from this well. The position of our Board of Directors with respect to the purchase of any additional gas still being as that indicated in our conference, I can see very little hope of consummating an arrangement at any time in the near future which would result in a connection of this well to our system."

Sheet 2 is a copy of a letter written by Mr. Waite to Republic Natural Gas Company on January 20, 1942, as follows:

"We are the owners of an unconnected gas well in the southern part of the Hugoton gas field, described as the Williams No. 1, located in the center of the Southeast Quarter of Section 12-35-38, Stevens County, Kansas. In checking over the map, we notice that you have a pipeline running on the south edge of our Williams acreage, or within approximately 650 feet of our well.

"In view of the fact that the Government has demanded the conservation of all oil and gas well equipment and is stopping all unnecessary drilling, we thought you might be interested in submitting us a bid to purchase gas from this well. This well is located on a 640-acre tract and has an open flow of approximately sixteen million cubic feet."

Sheet 3 is a letter in reply from Mr. Albert Hurlburt, vice-president of Republic Natural Gas Company, addressed to Mr. Waite on January 21, 1942, as follows:

> "Republic Natural Gas Company is a producer of natural gas; it is not a purchaser. Under the condi- [fol. 554] tions now existing in Kansas, the only purchaser I know of to take this gas would be the Northern Natural Gas Company. According to all the figures of the Kansas Corporation Commission, they are underconnected and the Panhandle Eastern Pipe Line Company is very much overconnected.
>
> "We would be very glad to entertain the possibility of purchasing this well, providing it can be done at a reasonable figure and if you would care to make an offer, I shall be very glad to take it up with our management here."

Sheet 4 is a letter addressed to Mr. Waite from B. R. Bay, president of Northern Natural, dated January 21, 1942:

> "Since receipt of your letter of January 22nd I have talked with our Production Superintendent about the possibility of Northern Natural Gas Company connecting your Williams well and wish to advise that because of the remote location of the well with respect to the gathering line facilities of Northern and Northern's other purchase and production commitments, we are not now in a position to provide an outlet for such well."

Sheet 5 is a copy of a letter addressed by Pioneer Petroleum Company's attorneys to Panhandle, November 11, 1942, demanding that the Panhandle make a connection with the Williams-Parli well under the proration order effective November 1, 1942:

> "In behalf of the Pioneer Petroleum Company, and because of the Proration Order of the Corporation Commission of Kansas, effective November 1, 1942, a demand is hereby made upon your company to make a connection with the Williams-Parli Well of the Pioneer

[fol. 555] Petroleum Company, and take, therefore, a ratable portion of gas allowed under said Order.

"You will oblige me, and the Pioneer Petroleum Company, by acknowledging receipt of this demand, and making a connection at once."

Page 6 is a letter in reply from Panhandle, which is in part as follows:

"For your information this Company has joined with a number of other producers in the Hugoton field in a petition for rehearing in the Proration proceedings referred to in your letter."

Witness excused. (T. 391.)

Testimony of WALTER KUHN.

Direct examination.

By Mr. Fleeson:

(October 20, 1948)

Experience of witness

I live in Wichita, Kansas. I am a drilling contractor and producer of oil and natural gas and have been for twenty-nine years. I have done about everything there is to be done in an oil field. Have been in business for myself since 1926, becoming active in the Hugoton field in the spring of 1930. My interest was in drilling for Republic, Trees, Pioneer and others. The first well I drilled in the Hugoton field in which I had an interest was for Stevens Oil and Gas, in 1930. I have an interest in thirty-eight wells now. (T. 392-393.)

Unconnected wells.

In September of 1931 I drilled the Warner No. 1, belonging to the Derby Oil Company of Wichita, Benedum-Trees of Pittsburg, and Kuhn Brothers of Wichita. It had an

open flow of 15 million cubic feet and a Btu content of [fol. 556] 967; it was located in the corner of Haskell County near the border of Seward County, and Panhandle Eastern's main line went right across the corner of this quarter section at the time the well was drilled in. This was a wildcat well when it was drilled. After it was completed we were not able to market gas from the common source of supply. Panhandle just refused to buy it, and so did Northern. We were not financially able to market the gas ourselves. We could not market it in Wichita or Kansas City because we had no way to get it into the pipeline. This well remained unconnected for nine years, until February of 1940. During this period we made many attempts to secure connections with pipelines. I personally talked to Mr. Bert Bay, Mr. J. D. Freeman, and Mr. Jerry Neuner, of Panhandle Eastern, seeking a connection. Mr. Freeman was production superintendent of the company and Mr. Neuner was vice-president. I talked with various people in Northern Natural, including Judge Kraft. I approached all of these people. I approached these people to buy the gas and offered to build a line to their trunk line. I went to New York City and talked with Mr. Bay, at the time he was resigning with Panhandle and going to Northern Natural. After that he invited me to Omaha, and I finally secured a market with the Argus Pipe Line Company. (T. 393-396.)

During all this nine year period when I tried to get a connection they said they wanted to produce their own gas and stated if they got to the position where they produced over sixty percent they could purchase some additional gas, but they never did. During this nine year period after this well was discovered everybody began to drill all around there, including the pipeline companies who had wells of their own in the near vicinity in the common source of supply. United Producing Company and Panhandle Eastern were marketing gas from the next [fol. 557] locations. Exhibit 30 (abstracted at C. A. 212) is a copy of the contract which was entered into for the purchase of gas from this well. (T. 396-397.)

The purchase price was four cents for the life of the lease, with a slight reduction for Btu content less than

1,000. The owners of the well built a pipeline to the Argus line, approximately 13,000 feet in length and at a cost of about sixty cents a foot, while at the same time Panhandle Eastern's line was within 1,000 feet of this well. We also maintained the line. This well has 640 acres attributable to it. (T. 397-398.) We had to dedicate all of the acreage for the life of the well; otherwise we would not have been offered a market. During the time this well was unconnected the landowners on the acreage attributable to the well received no money from the well, because there was no gas being sold from the well, although the gas was marketable. They did receive delay rentals. (T. 399.)

Sale of wells to pipeline companies

Among the others of my wells which stood unconnected for an appreciable time were the Youngren well No. 1 in Stevens County and Nix No. 1 in Morton County, belonging to Kuhn Brothers, drilled in 1937. (T. 399-400.)

When we drilled the Youngren well, Panhandle Eastern Pipe Line was in the adjoining section, but the well was unconnected about sixteen or eighteen months. We endeavored to obtain a connection for the well, but did not obtain one. We offered to build a line from the Panhandle Eastern's line to this well, just as we had offered Panhandle to build a line to the Warner No. 1. I personally conducted the negotiations with reference to Youngren which had an open flow of 15 million cubic feet. I talked with Jerry Neuner and Bert Bay. I told them I would run a line to their pipeline and sell them that gas. They stated that they were not going to purchase any gas and they [fol. 558] definitely did not purchase it. We never got a connection to the well. What finally happened was that Panhandle Eastern purchased both the Youngren and Nix wells from me. (T. 400-401.) Mr. Youngren threatened to sue me if I did not connect up the well. I could not get a market and I sold them both to Panhandle. They paid me $10 in cash on each well; they connected the wells up immediately and started taking gas. They agreed to pay me on the basis of two cents a thousand until the wells had ultimately repaid me $50,000 on the two wells. In other words

they paid me out of my own gas just what I had invested in the well. Exhibit 31 (abstracted at C. A. 213) is the contract which I refer to, on the Nix well, and Exhibit 32 (abstracted at C. A. 214) is the contract on the Youngren well. (T. 402-403.) At the time of the sale of these wells to Panhandle other wells in the vicinity were producing. I sold this lease and production because I could not do otherwise; there was no market. (T. 403.)

I had some correspondence in which I sought a connection for the Nix and Youngren that I finally sold the Panhandle, and also had a number of interviews in Kansas City. Exhibit 33 (set out at C. A. 215-217) consists of two letters written to me by Mr. J. G. Neuner, vice-president of Panhandle Eastern, on the 23d day of November, 1938. (T. 404-407.)

(The first page of the exhibit is a letter advising Mr. Kuhn that the board of directors had approved the contracts between Panhandle and Kuhn Brothers for the purchase by Panhandle of the two gas wells described by Mr. Kuhn in his testimony. The second page of the exhibit is another letter dated the same day referring to a proposed gas purchase covering the Warner well in Haskell County, in which it is stated that "the board was unwilling to depart from the policy established by it some time ago, not to contract for the purchase of any additional gas at this [fol. 559] time" and advising Mr. Kuhn that the board had for that reason failed to approve the contract, and was returning copies of the proposed contract to him. The third page of the exhibit is the proposed contract.)

The Youngren well has been paid for by Panhandle under this purchase contract, but the Nix has not yet been paid for. (T. 407.)

Other unconnected wells

The Curtis well was also unconnected for a period of time. It was drilled in 1938, in Stevens County, by Kinney-Coastal Oil Company and Kuhn Brothers, with an open flow of 8½ million. I never sold any gas from the well, so I don't know what the Btu content is. It is located about a quarter of a mile from Panhandle Eastern's main

line. I started negotiating for the sale of the gas from this well prior to the time I drilled it. I drilled the well because my leases were expiring and I had to do it to perpetuate them. After it was drilled I was not able to market the gas from the common source of supply. Panhandle Eastern refused to buy it. I talked to Mr. Neuner and Mr. Hinton. I offered to lay a line as I proposed before. Mr. Neuner said the board would not approve buying any gas, that was all there was to it. He flatly refused to buy gas. (T. 407-409.) They did try to buy the well. When they refused to buy the gas Mr. Neuner said they would take the well and pay me out of cent-and-a-half gas. I have some letters to that effect. They would pay for the well out of cent-and-a-half gas from our own production. When I sent that letter to my partners they naturally refused it. I did not contact Republic, because they were not in that vicinity. Our landowners received delay rentals during the time the well was unconnected. Panhandle Eastern offered to buy the well for $16,000 out of the production of the gas at a cent-and-a-half a thousand. (T. 408-410.)

[fol. 560] I never did get a connection for the Curtis well. During the war I got a war contract. Exhibit 34 (abstracted at C. A. 217) is the war contract. (T. 411-412.)

> "Mr. Fleeson: I want to state without reading it, it was for the duration of the war and six months after cessation of hostilities, at a price of four cents." (T. 412.)

After the war was over they continued to take gas at the same price, four cents. Six or eight months ago they offered to make a contract for the life of the well, offering five cents for five years, 5½ cents for the next five years, and an escalator clause from then on, but my associates in Denver decided not to take it. (T. 412.)

I was forced to sell the States well. I sold it to Republic. They refused to buy the gas. They would only buy the well. I sold it for $25,000, out of 2½-cent gas. They never gave me a nickel consideration on the acreage. Before I sold the States well to Republic I tried to market gas to Panhandle and Republic and both refused to buy it. I

offered to lay lines to them. I talked to Mr. Neuner and Mr. Hinton at Panhandle, and Mr. Albert Hurlburt with Republic. He was vice-president of Republic. (T. 410-411.)

The original pressure on the Warner well was 440 pounds, and when it was connected to a pipeline it was 417. The pressure of the Curtis was 428, and when it was connected it was 372. I do not have any pressures on the Youngren, Nix and States wells, because I did not put the wells on the line. (T. 413.)

The three Carpenter wells also remained unconnected for a period of time. They were located in Stevens County, with open flows ranging from 19 to 7 million cubic feet. I had assurances of connections from Mr. Brooks, who was president of the Northern Natural Gas Company and from Judge Kraft, of that company. The wells were [fol. 561] drilled in 1938 and I built connecting lines to the leases of Northern Natural immediately after I finished the wells. I stated I had an agreement with Mr. Brooks and Mr. Kraft, but I did not get a connection. After I laid the pipeline they had a change of heart and refused to connect up. After that I obtained an attorney, Mr. Ed Arn, and we went to Omaha and called on Northern. I finally secured connection at four cents for the life of the production. Northern can quit taking any time they elect to do so under the contract, but I cannot refuse to permit them to take. I secured this connection around eight months after I laid the line. (T. 410-416.) In order to get the connection, I had to surrender the balance of my leases, including acreage covering seven full sections. I had to give them seven full sections of my leases in order to connect that well they had already promised to connect. After they got those seven sections, they drilled them themselves a short time thereafter. (T. 416.)

The Neilson well was also unconnected for a period of time. It was drilled in 1936, with an open flow of 10½ million. It was approximately four miles from Northern Natural's eight inch line into Garden City. The well was a wildcat. I was looking for natural gas. I was unable to market the gas from this well and it stood unconnected for eleven years. I endeavored to obtain connections for

this well from Northern Natural and offered to lay a connection to their line. They refused to take the gas. They gave no reason for refusing to take it; they just said they were not going to buy any gas. When I drilled this well in, the rock pressure was 434 and when I connected to the pipeline it was 411 pounds. The well was on the line in August, 1948. That is the Neilson No. 1, in Haskell County. (T. 416-418.)

[fol. 562] Differing prices to same landowner

I know of purchases by pipeline companies of gas from adjoining wells at different prices. As a drilling contractor I drilled a well for Derby Oil Company and Kuhn Brothers. I drilled a well known as the Chatfield, belonging to Benedum-Trees, Kuhn Brothers and Derby, the gas from which was marketed at 6½ cents to Northern which laid the line to the well. The same Mr. Chatfield owns an interest in the well called the Dennis, on which he receives four cents. It is the same landowner and the wells are one location apart. (T. 419.)

I receive 4½ cents, 6½ cents and 8 cents for gas at the wellhead in the Hugoton field. These differences in price are not based on the quality of the gas, nor on the proximity of the wells to the pipeline connections. They cannot be explained on different wellhead pressures or deliverabilities. I know of no reason why one landowner should receive less for his gas than a neighbor receives for his gas taken from the common source of supply. (T. 419-420.)

Bargaining position of buyers and sellers of gas

I am familiar with the bargaining position of the sellers and buyers in the Hugoton field. There has not been any bargaining. I mean by that, you take what they offer you or you take nothing. With reference to getting connections, I have dealt with Alfred Hurlburt and Bill Wiles, of Republic Natural; with Bert Bay, John Miriam and John Hanley, of Northern Natural; with Charlie Hinton, Jerry Neuner, Harry Pope and many others, of Panhandle Eastern. I have dealt with Oscar Nelson and Mr. Staats, of United Carbon; Bill Beardsley and Mr. McClintock,

of Colorado Interstate. (T. 419-421.) Exhibit 35 (abstracted at C. A. 217) is a copy of the contract between Northern Natural and Kuhn Brothers. (T. 421.)

Witness excused. (T. 421.)

[fol. 563] Testimony of Conrad Ohm.

Direct examination.

By Mr. Fleeson:

(October 20, 1948)

Experience of witness and his company's interests

I live at Winfield, Kansas. I am secretary-treasurer and general superintendent of the Trees Oil Company in Kansas and the Kansas representative of the Benedum-Trees Oil Company, Pittsburgh, Pennsylvania. I have been connected with the oil and gas business in Kansas for over twenty-two years and have had charge of drilling and production operations, obtaining leases and negotiating of contracts and other general work con-ected with the drilling and production of oil and gas. I have had general supervision of all phases of these activities. (T. 419-423.)

The Benedum-Trees Oil Company originally became interested in the Hugoton field in about 1929. They drilled what is known as the second gas well in the field, and the Trees Oil Company had an interest with Benedum-Trees in these operations. (T. 423.)

Seven completed wells unconnected from 1929-1936

Our first activity was the securing of leases and the drilling of a well. Our company has an interest at this time in approximately 18,000 acres in the Hugoton field on which there are 28 producing gas wells. Twenty-one of these wells are located south of Hugoton, in Stevens County, in Townships 34 and 35, Ranges 38 and 39, and

there are seven wells located in Township 30, Range 34, in Haskell County, Kansas. (T. 423-424.) Our first well was completed December, 1929, in Section 3, Township 35, Range 38, Stevens County, south of Hugoton. The open flow was 9,200,000 cubic feet per day, without acidization, and a Btu content of over 1,000. Immediately fol- [fol. 564] lowing the drilling of the first well we drilled seven more: Grandy No. 1, Brecheisen No. 1, Lowrey No. 1, Myers No. 1, Mitchell No. 1, B. Myers No. 1, and Kramer No. 1. These wells were located approximately seven miles from the Panhandle Eastern line. The original venture was a wildcat. Subsequent wells were just natural follow-ups, as is customary in the gas business. (T. 424-425.) We drilled these seven wells on two blocks with a total acreage of 11,680. The Grandy block on which we drilled five wells had 6,720 acres. In the other block we drilled two wells on 4,960 acres. The leases were originally taken in the name of W. A. Barrington and Victor H. Martin. We paid a total of $130,000 for these leases. After these wells were completed we were not able to market gas from the common source of supply until 1936. In addition to our original investment of $130,000, these wells cost our company in the neighborhood of $30,000 per well to drill. In addition to that, we renewed the leases on these blocks at a substantial bonus at the end of five years. Our landowners on the acres attributable to these wells received one dollar per acre per year bonus during the time the wells were unconnected. That was on the developed leases. On the balance of the acreage they received the annual rental and a bonus of five dollars to ten dollars per acre. (T. 425-426.) Our company made an effort to obtain a connection for these wells. We sought connections from Argus, which is now part of the Northern Natural system, and also from Panhandle. I conducted the later negotiations. We finally got a connection for these wells with Panhandle Eastern. Exhibit 36 (abstracted at C. A. 218) is a copy of the 1936 contract with Panhandle on these wells. (T. 426-427.)

"Mr. Fleeson: I might say for the record that this is the contract with the provision calling for three

cents per thousand cubic feet to be paid by the buyer [fol. 565] for gas purchased hereunder such provision to remain in force and effect until such time as one cent per thousand cubic feet of gas purchased and received by buyer equals the sum of $12,596, being the sum agreed upon as the labor cost of constructing the necessary gathering lines to connect sellers' wells with buyers' existing pipeline. The contract is also a life-of-lease contract." (T. 428.)

Impossibility of obtaining connections

During the time these seven wells were unconnected we were required to pay a substantial bonus for the renewal of the leases on the undeveloped acreage. We did not drill the additional wells on this undeveloped acreage because it was impossible to obtain pipeline connections. To my own knowledge, the pipeline companies were producing gas from the common source of supply at the same time they were refusing to connect with our wells. (T. 428-429.)

Seven additional completed wells unconnected for nine years

Our leases with the landowners provided for a payment to them of one-eighth the market price for gas. They are paid on the basis of 4 cents per thousand cubic feet. (T. 429.) Our companies drilled more wells in the Hugoton field in 1937 in the same general area of the first five wells in the original block, Township 38, Range 38, Stevens County, Kansas. Our companies were the sole owners of this second group of wells. These seven additional wells were in the immediate vicinity of the lines on which we paid labor construction cost for our other seven wells. That is, the construction costs of the lines which are noted in Exhibit 36. The total open flow of these seven additional wells was 51 million cubic feet a day without acidizing. The Btu content was around 1,000. [fol. 566] These wells are the Wheeler No. 1, Watkins No. 1, Hamilton No. 1, Mitchell No. 1, Ferguson No. 1, Beaver No. 1, and Morris No. 1. We were unable to secure a con-

nection for the wells. We drilled the wells in order to perpetuate and protect our rights in the leases. We were required to continue paying what we call the minimum rental or royalty, even after the wells came in. At the completion of these wells we were not able to market gas from the common source of supply until the latter part of World War II, when we obtained connections for a short time on three wells. These wells were unconnected for approximately nine years, during which time we sought connections from the Panhandle Eastern Pipe Line Company, Northern Natural Gas Company, and Republic Natural Gas Company. We offered to build a line to the line of the pipeline companies. We contacted these companies at various times, but were not able to secure any connections or any contracts. We wrote letters to them. Exhibit No. 37 (abstracted at C. A. 218) consists of copies of such letters. (T. 420-430.) (Sheet 1 of the exhibit is a copy of a letter to Panhandle, August 13, 1937, asking when the witness' company might expect connection to wells recently completed in the Grandy Block. Sheet 2 is a copy of another letter written October 5, 1937, to Panhandle, referring to the prior letter and asking for connection to an additional four wells. Sheet 3 is copy of another letter, written October 29, 1937, to Panhandle asking for advice as to what action was taken relative to connecting the wells in the block. Sheet 4 is a copy of another letter, dated January 7, 1942, as follows:

> "It has come to our notice that you are planning to drill a number of wells in Kansas, and we presume that some of them will be in Stevens County, Kansas.
>
> "In view of the fact that we have a number of [fol. 567] unconnected wells in Stevens County, Kansas, we feel that they should be given preference over any new wells that may be drilled in that field. We drilled these wells more than four years ago on your recommendation and promise that if we would unitize our acreage into 640 acre blocks and drill one well to each unit that we might expect connections for these wells, but to date these wells are still shut in.

"With the war program under way it has occurred to us that since the Government has demanded that we conserve as much as possible on essential defense materials, which include well equipment, we think, as stated above, all unconnected wells should have priority.

"Would appreciate hearing from you regarding the above."

Sheet 5 is a letter from Panhandle's offices denying the promise of a connection. Sheet 6 is a copy of a letter dated November 16, 1943, addressed to Panhandle asking as to whether or not there was a possibility of Panhandle connecting to Benedum-Trees' unconnected wells in the Hugoton field, Stevens County. Sheet 7 is a letter dated January 11, 1944, to Benedum-Trees from Panhandle stating it has given considerable study to the possibility of connecting some of Benedum-Trees' wells located in Stevens County which were then unconnected, but that the steel requirements and over-all cost renders the project unfeasible.)

We received a few answers to our letters. They usually did not acknowledge our letters. I talked with Mr. Pope, of Panhandle, at Kansas City; John Hanley and Mr. Bert Bay, at Northern Natural. The short war emergency connection made on three of the wells was with Republic Natural, at four cents for the duration of the war and [fol. 568] ninety days. Republic laid the pipeline and we were cut off shortly after the cessation of hostilities. The wells were unconnected after that until about the middle of 1946. (T. 432-433.) The other four wells were not connected during the war, although we sought connections for them from Panhandle Eastern. We offered to lay a line for a permanent connection. They were doing other drilling at that time. (T. 433-434.)

We paid the labor cost on the line that was laid to the original seven wells. These later seven wells were drilled in the immediate vicinity more or less offsetting the original wells. We offered to connect to Panhandle Eastern, but they refused, stating that the line was filled to capacity. That was the line on which we paid $16,350 labor

cost. Subsequent to our company's paying for the construction of this line other wells not belonging to us were connected to this line by Panhandle. We feel that was the reason for the line being at capacity. (T. 434-435.)

The Harrington deal

We continued to seek connections, but we were not successful. We negotiated with Panhandle and Northern Natural. Negotiations were of the same general nature as those already described—conferences with Mr. Pope, Mr. Bay and Mr. Hanley, and also telephone conversations. It was understood they would not pay more than four cents. Only by selling most of our interest in these wells were we finally able to market the gas. It seemed impossible for us ever to get a connection, so we finally entered into negotiations with D. D. Harrington of Amarillo, Texas, and sold these wells, to be paid for out of production, plus a small overriding royalty which was retained by us. The royalty was 3/16 of 7/8. Almost immediately Mr. Harrington secured a connection with Panhandle Eastern Pipe Line Company. Gas is now being sold out of [fol. 569] those wells at 4½ cents, with an escalator clause, under life-of-lease contract. Exhibit 38 (abstracted at C. A. 221) is a copy of the contract. (T. 435-436.)

I stated that we had 6,728 acres in one block on which we drilled two wells. Some of this acreage was, due to the time element involved, lost by us since we were not able to renew the leases. On the balance of approximately 4,800 acres our leases were about to expire when we were able to make a deal with D. D. Harrington, of Amarillo, whereby he took over this acreage, drilled the wells and secured a connection with Panhandle Eastern Pipe Line. We retained a small overriding royalty interest. (T. 436-437.) We got no cash consideration for the 4,800 acres we turned over to Mr. Harrington. We turned over these leases and Mr. Harrington started drilling immediately and got connections immediately with Panhandle Eastern. We did not drill wells on this acreage prior to the time we made this deal with Harrington, for the reason we already had seven wells unconnected on which we were

not able to secure connections. Those were the second seven wells we drilled. We had retained these leases of 4,800 acres that we turned over to Harrington and that he immediately started drilling and got connections for, since 1929. During the entire period from 1929 to 1946 when we turned them over to Harrington we had paid delay rentals amounting to one dollar per acre per year, plus a bonus of from five to ten dollars an acre, at the time the lease was renewed at the end of the five-year period. There were two or three renewals at five to ten dollars an acre. (T. 436-439.)

Warner well unconnected eleven years

We also drilled other wells which remained unconnected. Together with others we drilled the Warner No. 1 in 29-30-34 Haskell County, Kansas, in 1931. Our partners [fol. 570] were Derby Oil Company of Wichita and Kuhn Brothers. The open flow was approximately 16 million cubic feet a day and the Btu content was slightly under 1,000. The well was not acidized until recently. It was drilled as a wildcat. Panhandle Eastern's pipeline crossed the corner of the section in which this well was located. We were not able to market gas from this well. The only gas we marketed from the well prior to 1941 was a small amount sold to United Producing Company for drilling operations. It remained unconnected for eleven years, with a pipeline running across the corner of the lease. (T. 439-440.) We sought a connection with the Argus Natural Gas Company and Panhandle Eastern. We finally got a connection with Argus, now part of Northern Natural, at a price of four cents for the life of the lease. We paid for the pipe and for the laying of the pipe. We had to lay approximately two miles. If we could have obtained a connection with Panhandle, it would have taken less than 1,000 feet of pipe. (T. 441.)

The Warner No. 1 well was drilled on a block of acreage which we owned. During the period that the Warner was unconnected we did not drill the other acreage because we were not able to get a promise of connection. We were required to pay a bonus for leases during this period and

to pay delay rentals in order to retain our leases. There were originally approximately 22,000 acres blocked in this section. We did not retain all this acreage during the period, due to the tremendous expense involved in delay rentals and bonuses. We felt it expedient to drop a great part of this acreage because we were unable to secure connections. After we were forced to release this acreage it was taken up and leased by other operators. United Production Company has a substantial number of wells on this acreage. In 1945 we finally got a contract with Northern Natural Gas Company, whereby we contracted [fol. 571] to drill six additional wells on units of 640 acres, which covered all the acreage we retained out of this large block. Two of these last six wells were completed and connected to the line in the early part of 1946, and the final four wells were drilled and completed the latter part of 1947 and connected to Northern Natural pipeline system about January, 1948. Exhibit 39 (abstracted at C. A. 222) is the contract on these leases. It is a four-cent contract for the life of the lease. (T. 441-444.)

Comparative bargaining positions

As to the comparative position of our company and the pipeline company, insofar as bargaining power in negotiations in which we sought connections for wells, during this period of time, we offered to lay lines to their systems and offered to sell the gas at their price, which was four cents. This, in effect, gave us no bargaining power. We could not market our own gas, because there were no pipeline facilities or distribution systems. We could not build our own pipeline, due to the tremendous cost involved for the small amount of acreage held by us. It was not economically practicable. The pipeline companies gave no particular reasons for not making connections; they just said they were not interested. They were drilling on acreage they owned at the time, both Northern Natural and Panhandle Eastern. We finally agreed to the contract which we entered into, because it was either that or nothing, with the possibility of losing what little acreage we had left. (T. 444-446.)

Prices of gas

I am familiar generally with the prices paid for gas in the Hugoton field. Landowners do not receive uniform prices. Prices to producers also vary. We own a well in which Mr. Howard Chatfield has an interest. It is the Dennis well in Haskell County. He also has an interest [fol. 572] in Stoops No. 1. He gets four cents from these two wells. I am also familiar with the well drilled by Kuhn Brothers, in which Mr. Chatfield has an interest. These wells were drilled within thirty days of each other. He gets 6½ cents per thousand on the well I last mentioned. There is no difference in the quality of the gas or its Btu content. Northern Natural is marketing the gas on both wells. The same company is paying different prices for gas from wells located less than a mile apart, on land owned by the same farmer, with the gas going into the same pipeline. I have no explanation for the differing prices of gas in the same general location, produced under the same pressures and under almost identical circumstances. In my opinion, there is no rational basis for one landowner receiving less for gas from a common source of supply than his neighbor receives for the same gas.

Position of small producer and landowner

I cannot explain the difference in the price of gas in the field on the basis of the relative amount of acreage which the seller is in position to dedicate. I say this because we had 22,000 acres in one block, plus approximately 12,000 in another block, and also had wells on this acreage ready for production, but we could not obtain any connections. If you had enough acreage and enough wells drilled on it, as Republic has, you might get into a bargaining position with other lines or make it feasible to build your own line. The little fellow doesn't have a chance. In any event, the landowner does not have any control over the amount of acreage other than his own, that his lessee may be able to dedicate to a pipeline company.

The effect of relative bargaining power of buyers and sellers, upon the acreage which the sellers of gas have been able to retain, is that we were forced to relinquish a great

part of the acreage we originally owned. This difficulty [fol. 573] I have described in getting connections has an effect upon the ability of independent producers to get and retain large blocks of leases. The small independent producer was unable to carry these blocks, due to the bonuses and delay rentals necessary to hold the leases. In addition to the large block of leases we originally held for a period of time amounting to something over 36,000 acres, we had several other deals in the process of consummation which we could have and would have developed had we been able to get pipeline connections. (T. 446-450.)

Effect of uniform price

As to the effect of uniform minimum price for gas in the Hugoton field upon the operations of the basic proration regulations of the Commissi-n, I feel it would eliminate underages and overages, due to the fact that if the price paid for gas were uniform, it would be economically feasible for the purchasers to buy gas from each other in order to balance the situation and take allowables as given under the total market demand. (T. 450.)

Witness excused. (T. 450.)

Testimony of DAN C. SULLIVAN.

Direct examination.

By Mr. Fleeson:

(October 21, 1948)

I live at Ulysses, Kansas, and have been a resident of Grant County all my life. I own land in Grant County. I proved up a homestead there in 1916 and have accumulated some land by purchase since that time. I also inherited some at the death of my father, in 1915.

We have one gas well on the home ranch and we have an interest in one east of Ulysses. We have a three-fourths interest in one near Hugoton and some royalty on eight producing wells. We are paid 5 cents for gas under our developed acreage, from Panhandle Eastern, North-[fol. 574] ern Natural and Colorado Interstate. I am vice-

president of the Southwest Kansas Royalty Owners Association. (T. 451-452.)

Witness excused. (T. 452.)

* * * * * * *

[fol. 577] (A legal description of the producing and non-producing acreage upon which Kansas-Colorado Utilities owns leases was received in evidence as Exhibit 46.

* * * * * * *

Exhibit 50 (abstracted at C. A. 225) is a copy of the contract of that company for the purchase of gas in the Hugoton field, which is the regular form of purchase contract.) (T. 465-466.)

Testimony of JOHN HANLEY.

Direct examination.

By Mr. Fleeson:

(October 21, 1948)

I am superintendent of production of the Northern Natural Gas Company.

It was my estimate as of June 30, 1946, that the total production from the Kansas portion of the Hugoton field would approximate 12¼ trillion cubic feet, at an abandonment pressure of seventy-five pounds. I made a subsequent calculation which enlarges the reserves slightly. [fol. 578] At a lower abandonment pressure there would be some enlargement of the reserves.

* * * * * * *

All of the acreage which we have dedicated to us under contracts under which we are now producing gas run for the life of the production. (T. 470-471.)

The contract between Republic Natural Gas Company and Northern Natural Gas Company, dated December 21, 1945, is a restatement of a former contract between predecessors of each of those companies, bearing date of May 27, 1937. The later contract is a simplified restatement of the contractual obligations under the original agreement. The contract obligates Republic to deliver, and Northern

[fol. 579] to purchase, sixty percent of Northern's requirements for serving the State of Iowa and the eastern portion of the state of Nebraska described as being east of a certain longitude. This is sometimes referred to as the "Argus sixty percent Contract." Gas is purchased by Northern from Republic under this contract. (T. 473.) Under the contract Northern pays Republic for gas six cents per Mcf, on a pressure base of 16.4 pounds until June 30, 1951. Thereafter, the price is to be determined by negotiation between representatives of the two companies, for three year periods. In the event of a failure to agree, price will be determined by a board of arbitration, but within limits of not less than six cents nor more than ten cents. Northern is now paying six cents. While Republic has wells both in Kansas and Oklahoma, the gas that Northern purchases from Republic under this contract is produced wholly within the state of Kansas and delivered to Northern in central Stevens County, three miles east of Hugoton. (T. 473-474.)

Another contract between these two companies, dated September 13, 1945, provides for the purchase of gas from certain acreage of Republic in volumes ratable with all gas purchased and produced by Northern in the Kansas Hugoton field in excess of volumes purchased by Northern under its other contract with Republic and its contract with Panhandle Eastern Pipe Line Company and the Saturn Oil and Gas Company. Those two volumes are excluded from ratable purchase, because they are minimum taking, early day, prior commitment type of contracts. The price terms in this second contract are 5¼ cents per Mcf. It is what is termed the "B System contract." I generally refer to it as the "ratable contract," and to the first contract as the "sixty percent contract." Others refer to them as "Group B" and "Group A" contracts respectively. There are no provisions for change of price in [fol. 580] the second contract which extends for the life of production. Gas is measured at 16.4. Northern has gas purchase contracts with producers other than Republic, described as follows:

Contract No. 3 with Panhandle Eastern Pipe Line Company and Saturn Oil and Gas Company, dated January

18, 1929, providing for delivery of gas at the wellhead at an average annual price approximately 6.14 cents per Mcf. This contract dedicated approximately 13,000 acres and expires September 30, 1951. All other contracts are for the life of production.

It requires Northern to purchase all of its requirements for serving fifteen cities and towns and other customers served by Northern in Southwest Kansas, except one-half of its distribution requirements within the corporate limits of Garden City. It is one of the contracts to which I referred as being precommitment contracts referred to in the Republic B contract. (T. 478.)

Contract No. 4 with Cities Service Oil Company, dated April 1, 1947, providing for delivery at the wellhead at a price of seven cents per Mcf for the first fifteen years of production, and thereafter the weighted average of price paid for pipeline gas from the Kansas Hugoton field, but not less than seven cents. (T. 482.) This contract dedicated approximately 14,000 acres.

Contract No. 5 with Cities Service Oil Company, dated February 18, 1947, providing for delivery at the wellhead at a price of 6½ cents, present day price 6½ cents for the first fifteen years of production, and thereafter the weighted average price for pipeline gas from the Kansas Hugoton field, but not less than seven cents. (T. 482.) Dedicated approximately 10,000 acres.

Contract No. 6 with the City of Hugoton, dated June 4, 1945, providing for delivery at the edge of city limits, at a price of five cents per Mcf, covering 640 acres.

[fol. 581] Contract No. 7 with Marion Conley, dated November 8, 1945, with delivery at Northern's pipeline at a price of four cents per Mcf, covering 640 acres.

Contract No. 8 with Derby Oil Company and others, dated February 8, 1940, providing for delivery at Northern's pipeline, at a price of four cents per Mcf, covering 640 acres. (T. 478.)

Contract No. 9 with Derby Oil Company and others, dated July 25, 1944, providing for delivery at Northern's pipeline, at a price of four cents per Mcf, covering 1,920 acres.

Contract No. 10 with Derby Oil Company, dated February 21, 1945, providing for delivery at Northern's pipeline, at a price of four cents covering 1,920 acres.

Contract No. 11 with Derby Oil Company and others, dated September 4, 1945, for deliveries at Northern's pipeline at a price of four cents, covering 640 acres.

Contract No. 12 with Derby Oil Company and others, dated August 31, 1946, providing for delivery at wellhead, at a price of five cents per Mcf, covering 640 acres. (T. 479.)

Contract No. 13 with Derby Oil Company and others, dated April 24, 1947, providing for wellhead delivery at the present-day price of 6½ cents for the first fifteen years of production, and thereafter the weighted average price for pipeline gas in the Kansas Hugoton field, but not less than seven cents. (T. 482.) Covering 4,480 acres.

Contract No. 14 with Fin-Ker Oil and Gas Production Company, dated April 15, 1940, and providing for delivery at Northern's pipeline, at a price of four cents per Mcf, covering 1,928 acres.

Contract No. 15 with Walter and Howard Kuhn, dated October 12, 1938, providing for delivery at Northern's pipeline, at a price of four cents per Mcf, covering 1,920 acres. (T. 480.)

[fol. 582] Nine of Northern Natural's thirty contracts carry provisions for renegotiation of price, commonly referred to as an escalator clause. (T. 481.)

Contract No. 16 with Alf M. Landon, dated October 17, 1944, providing for delivery at the pipeline at a price of four cents, covering 640 acres. (T. 482.)

Contract No. 17 with Alf M. Landon, dated November 12, 1945, providing for delivery at the pipeline at a price of four cents, covering 640 acres.

Contract No. 18 with A. C. Moorehead, dated April 23, 1945, providing for delivery at the pipeline at a price of four cents per Mcf, covering 640 acres.

Contract No. 19 with G. J. Neuner and Walter Kuhn, dated May 19, 1944, providing for delivery at the pipeline at a price of four cents per Mcf, covering 1,280 acres.

Contracts No. 20, No. 21 and No. 22 with G. J. Neuner and Walter Kuhn, dated respectively January 12, 1948,

February 4, 1948, and June 2, 1948, providing for delivery at the wellhead at the present price of 6½ cents for the first fifteen years and the weighted average price for pipeline gas in the Kansas Hugoton field thereafter, but not less than seven cents, each covering 640 acres. (T. 483.)

Contract No. 23 with Orville Parker, dated December 20, 1944, providing for delivery at the pipeline, at a price of four cents, covering 640 acres.

Contract No. 24 with The Texas Company, Skelly Oil Company, and Columbian Fuel Corporation, dated May 23, 1945, providing for delivery at the pipeline at a price of four cents, covering 5,575 acres.

Contract No. 25 with The Trees Oil Company and M. J. Benedum, dated July 9, 1945, providing for delivery at the pipeline at a price of four cents, covering 3,840 acres.

Contract No. 26, with United Producing Company, Inc., [fol. 583] dated August 25, 1943, providing for delivery at the pipeline at a price of four cents, covering 1,280 acres.

Contract No. 27 with Warren Petroleum Corporation, dated March 6, 1947, providing for delivery at the wellhead at a price of seven cents per Mcf for the first fifteen years and thereafter the weighted average price for pipeline gas in the Kansas Hugoton field, but not less than seven cents, covering 67,875 acres. (T. 484.)

Contract No. 28 with White Eagle Oil Company, dated January 4, 1940, providing for pipeline delivery at a price of four cents, covering 640 acres.

Contract No. 29 with White Eagle Oil Company, Wallace Gilroy and Albritton Corporation, dated March 12, 1942, providing for delivery at the pipeline at a price of four cents, covering 1,280 acres.

Contract No. 30 with Wood River Oil & Refining Company and others, dated August 23, 1948, providing for delivery at the wellhead at a price of 6½ cents for the first fifteen years and thereafter the weighted average price in the Kansas Hugoton field, but not less than seven cents, covering 640 acres. (T. 485.)

* * * * * * *

[fol. 586] Testimony of C. H. Hinton.

Direct examination.

By Mr. Fleeson:

(October 21, 1948)

I am production engineer for Panhandle Eastern Pipe Line Company. Exhibit 53 is a list of purchase contracts entered into by Panhandle, showing the name of the seller, the date of the contract, the price per Mcf for gas to be delivered the eunder, and the amount of acreage under each of the contracts.

Exhibit 53 is as follows:

[fol. 587]

	Name of seller	Date of contract	Price per Mcf	Acreage
1	Sidwell et al.	7-16-31	5¢	160
2	Sidwell et al.	7-16-31	5¢	320
3	Kinney-Coastal Oil Co.	3- 4-33	4¢	320
4	Benedum-Trees Oil Co.	7-20-36	4¢	1,520
5	Pioneer Petroleum Co.	7-20-36	4¢	1,600
6	Benedum-Trees Oil Co.	9-16-36	4¢	960
7	United Producing Co.	9-17-36	4¢	3,120
8	Stevens County Oil & Gas Co. et al.	9-18-36	4¼¢	480
9	Kuhn Brothers	12- 8-36	4¢	640
10	Stevens County Oil & Gas Co. et al.	1- 4-37	4¼¢	160
11	Stevens County Oil & Gas Co. et al.	1- 4-37	4¼¢	640
12	Columbian Fuel Corp.	3-24-37	4¢	6,353
13	Kuhn Brothers	4- 7-37	4¢	640
14	United Producing Co.	4-23-37	4¢	6,400
15	Kuhn Brothers	6-11-37	4¢	600
16	Kuhn Brothers	6-11-37	4¢	640
17	R. K. Wilson Estate	7- 7-37	4¢	3,200
18	Parish et al.	7- 7-37	4¢	3,162
19	M. J. Sullivan	7-23-37	4¢	640
20	Saturn Oil & Gas Co., Inc.	7-27-37	Weighted average field price, with minimum of 5¢	19,760
21	Saturn Oil & Gas Co., Inc.	8- 4-37	5¢	320
22	Kuhn Brothers	8- 9-37	4¢	640
23	Stevens County Oil & Gas Co. et al.	9-10-37	4¼¢	640
24	Stevens County Oil & Gas Co. et al.	9-10-37	4¼¢	640
25	Stevens County Oil & Gas Co. et al.	4- 6-38	4¼¢	600
26	Stevens County Oil & Gas Co. et al.	7-12-38	4¼¢	640
27	Stevens County Oil & Gas Co. et al.	3-24-39	4¼¢	640
28	Stevens County Oil & Gas Co. et al.	3-24-39	4¼¢	640
29	Stevens County Oil & Gas Co. et al.	4-25-40	4¼¢	640
30	Stevens County Oil & Gas Co. et al.	4-25-40	4¼¢	640
31	Stevens County Oil & Gas Co. et al.	4-22-41	4¼¢	640
32	Stevens County Oil & Gas Co. et al.	4-22-41	4¼¢	640
33	Dunne-Hoffman	11- 5-43	1st 5 yrs. 4¢ 2d 5 yrs. 4¼¢ Thereafter 5¢ (Owned 50% by PEPL Co.)	3,840
34	White Eagle Oil Co.	5-31-44	4¢	640
35	Kinney-Coastal Oil Co. (Howard and Walter Kuhn)	6-13-44	4¢	640
36	Stevens County Oil & Gas Co. et al.	10-23-44	4¼¢	640
37	Stevens County Oil & Gas Co. et al.	10-23-44	4¼¢	640
38	Stevens County Oil & Gas Co. et al.	10-23-44	4¼¢	640
39	Stevens County Oil & Gas Co. and Wool River Oil & Refining Co., Inc. (Formerly Fred C. Koch)	2- 1-45	1st 5 yrs. 4¢ 2d 5 yrs. 4¼¢ Thereafter 5¢	640
40	Stevens County Oil & Gas Co. et al.	2- 1-45	1st 5 yrs. 4¢ 2d 5 yrs. 4¼¢ Thereafter 5¢	3,200
41	Pioneer Petroleum Co. and Howard Kuhn	1-22-46	4¢	640

	Name of seller	Date of contract	Price per Mcf	Acreage
42	D. D. Harrington	2-22-46	1st 5 yrs. 4½¢ Thereafter 5¢ or weighted average field price, whichever is higher.	4,480
43	Columbian Fuel Corp.	5-21-46	1st 5 yrs. 5¢ 2d 5 yrs. 5¼¢ 3d 5 yrs. 5½¢ 4th 5 yrs. 6¢ Next 5 yrs. 6¢ or weighted average price, whichever is higher, and thereafter at 5-yr. intervals, a similar adjustment.	19,200
44	White Eagle Oil Co. and Cities Service Oil Co.	6-24-46	4½¢	640
45	A. C. Moorhead	7-23-46	4½¢ (Owned 50% by PEPL Co.)	640
46	D. D. Harrington	12- 1-46	4½¢ until 12-1-50 Thereafter 5¢ or weighted average field price, whichever is higher.	7,680
47	Kuhn Brothers	12- 6-46	4½¢	640
48	B. A. Hardey	12-26-46	1st 10 yrs. 4½¢ Thereafter, weighted average field price.	640
49	Stanolind Oil & Gas Co.	5- 6-47	5¢	.....
50	Stanolind Oil & Gas Co.	8- 4-47	5¢	.....
51	Cities Service Oil Co.	4-24-47	1st 15 yrs. 6½¢ Thereafter 7¢ or weighted average field price, whichever is higher.	.....

As to Contract 20, of the 19,760 acres shown, one-half is owned by Panhandle, and the other one-half by Saturn. (T. 611.)

Contract 49 is a short term contract covering production in the deeper horizon, which is not included in the Hugoton field. The same thing is true of Contract 50. With the exception of these two contracts, all of the contracts are for the life of the lease or life of production. The provision in some is for as long as commercial production occurs, [fol. 589] or to a certain abandonment pressure, usually 50 pounds.

* * * * * * *

[fol. 591] Testimony of THOMAS CREIGH, JR.

Direct examination.

By Mr. Fleeson:

(October 21, 1948)

I am chief engineer for the Kansas-Nebraska Natural Gas Company, Inc.

* * * * * * *

The total acreage dedicated to the Kansas-Nebraska Natural Gas Company, Inc., under purchase contracts, is approximately 84,000 acres, which includes some 28,000 acres of leases we own, ourselves.

The following is a description of these contracts stating the name of the producers, the acreage dedicated, the prices per Mcf for gas provided for therein; each contract, unless otherwise designated, being for the term of the life of the field:

Fin-Ker Oil and Gas Production Company, dedication 48,000 acres, at a price of five cents, with escalator clause.

W. B. Osborne and Kansas Natural Gas Company, Inc., dedication 3,840 acres, at a price of five cents, with escalator clause.

Beach and Ward, dedication 1,280 acres, price 4⅝ cents, with escalator clause.

Beach and Morrison, dedication 640 acres, price 4⅝ cents, with escalator clause. (T. 534.)

Beach and Morrison, dedication 1,280 acres, price 4⅝ cents, with escalator clause.

Kansas Natural Gas Company, Inc., Cities Service Oil Company and Champlin Oil and Refining Company, [fol. 592] dedication 640 acres, price 4⅝ cents, with escalator clause.

Kansas Natural Gas Company, Inc., dedication 5,120 acres, price 4⅝ cents, with escalator clause.

Further contract with same company, dedication 6,000 acres, price four cents.

Kansas Natural Gas Company, Inc., and Cities Service Oil Company, dedication 1,280 acres, price 4⅝ cents, with escalator clause.

Of the 2,800 acres on which we have leases, royalty is currently being paid at five cents per Mcf.

White Eagle Oil Company and Stanolind Oil and Gas Company, dedication 640 acres, price five cents. This contract is subject to cancellation on thirty days' notice by either party. (T. 535.)

Stan*d*olind Oil and Gas Company, dedication 640 acres, price five cents. This contract is subject to cancellation on six months' notice after two years.

Cities Service Oil Company, dedication 10,880 acres, price 4⅝ cents, with escalator clause.

With one exception all of our contracts provide for the same price, but there is a three-eighths cent allowance in cases of wells where the producers gather the gas. (T. 534.)

Witness excused. (T. 536.)

* * * * * * *

Thereupon, it was stipulated as follows:

"In connection with gas purchase contract dated December 1, 1945, between Columbian Fuel Corporation as seller and Columbian Carbon Company as [fol. 593] buyer; and gas purchase contract dated March 18, 1946, between Columbian Fuel Corporation

as seller and the Peerless Carbon Black Company as buyer, counsel of record for Columbian Fuel Corporation informs the Commission that while the delivered price of gas under these contracts is four cents per Mcf, Columbian Fuel Corporation pays royalties for such gas at the rate of five cents per Mcf measured at the well; that Columbian Fuel Corporation owns 67,153 acres of leases held by production and 27,602 acres of leases not held by production, all on lands in the Kansas portion of the Hugoton field. It is stipulated by counsel for petitioners and Columbian Fuel Corporation that the foregoing statement may be considered as part of the evidence in this proceeding." (T. 541.)

* * * * * * *

[fol. 596] The exhibit shows outstanding 465,310 shares of common stock. As to the number of shares issued purely as dividends, without cost to the stockholders, there may have been one stock dividend on a one-for-five basis and one on a one-for-ten basis. (T. 884-885.) During the year ending December 31, 1941, we had a common stock dividend of 17,984 shares, and during the year ending December 31, 1945, 48,770 shares. During the year ending December 31, 1947, we had a common stock dividend of 66,366 shares. The total of these three issues of stock dividends is 133,120 shares, or approximately thirty percent of the issue of common stock of 465,310 shares. (T. 885-886.)

[fol. 597] Our company was organized in 1927. As to the price at which stock other than that which was distributed as dividends or promotion stock was issued, the original issue after the company was reorganized in 1936 was at $5 a share. The latest issue, just recently marketed, was sold at $12.50 a share. (T. 886-887.) This last issue was some 90,000 shares. About two years ago we sold an issue of stock for $10. (T. 887.) Since the original issue in 1936, after reo-ganization, we issued further stock at $6 a share. My recollection is that it was in 1941. The $12 issue was in November of 1948. (T. 888.)

In addition to the dividends in the way of stock which was issued, our company paid forty cents to eighty-five cents a share for the last ten years on its common stock.

During the year ending December 31, 1947, we paid eighty-five cents a share. On the basis of $5 per share, that would be a return on the stock of seventeen percent. In addition to the stock dividends which were distributed during the years 1941, 1945 and 1947, there was a distribution each year to stockholders of from eight percent to seventeen percent yearly on the par value of stock. Our stockholders get a preemptive right to the stock of the company at par value. The latest price of that offer was $12.50. In addition to these liberal disbursement- of dividends, there has been accumulated undivided surplus and profit which enables us to sell this stock at an increased price. The stock dividends are a distribution to stockholders of earnings properly theirs which were withheld for expansion of the company. (T. 891.) The stockholders could have sold their stock and immediately realized the dividends. The undivided profits or earned surplus of the company at the end of the year 1947 were $348,709.55. (T. 892.)

[fol. 598] In addition, we had certain reserves which were set apart out of undivided profits, including the reserve for depreciation of the gas plant amounting to $2,734,722.92, as compared to the total gas plant of the $15,209,370.25; a reserve for amortization and depletion of gas plant amounting to approximately $18,000, and reserve for amortization of other limited term gas investments of $24,000, a reserve for uncollectible accounts of approximately $17,000, a reserve for injuries and damages amounting to approximately $19,000, and other reserves amounting to $188,000. (T. 893-894.)

In addition we have paid our preferred stock dividend requirements of $5 a share each year all during the years Our mortgage debt on December 31, 1947, was $5,984,000. We have paid interest on that long-term debt.. In the light of the facts to which I have testified, our board of directors took action to reduce the price of gas in 1947. (T. 894-895.)

We issued 56,922 shares in 1947 at a price of $10 a share. In addition to that, there was a common stock dividend of one share for six in October of that year, amounting to 66,366 shares of par value stock. (T. 903-905.) Eighty-five cents was paid in that year on each $5 par value common stock outstanding. (T. 905.)

[fol. 607] G. Counter Abstract of Additional Exhibits

Docket No. 33154-C

Abstract of Exhibit 3

Exhibit 3 is partially abstracted on pages 274 to 283 of the Consolidated Abstract. Exhibit A, a part of Exhibit 3, illustrative sheets of which are set out on page 283 of the Abstract, shows that wellhead pressures effective as of October 1, 1948, in the Hugoton field ranged from 334 pounds upward.

The exhibit also shows that as of October 1, 1948, there were 1,106 wells to which were attributed 692,298 acres in the Hugoton field. The exhibit also shows that there were 9 pipeline takers of gas, and gives the following information with regard to the number of wells from which each taker was taking gas, the acreage attributable to those wells as of October 1, 1948, and the volume of gas taken from those wells in September, 1948 (volumes are expressed in thousand cubic feet):

Name	*Wells*	*Acres*	*Volume of Runs*
Northern Natural Gas Company	401	248,923	4,329,177
Panhandle Eastern Pipe Line Company	260	158,915	3,577,612
Colorado Interstate Gas Company	149	95,158	1,139,553
Kansas-Nebraska Natural Gas Company	99	64,022	1,070,489
United Carbon Company	129	82,400	933,566
Columbian Carbon Company and The Peerless Carbon Black Company	59	37,760	600,735
Kansas-Colorado Utilities, Inc.	7	4,000	147,500
Farmer Owned Pipe Line Company	1	640	21,935
Shallow Water Refining Company	1	480	2,145
Total	1,106	692,298	11,813,712

[fol. 609] Abstract of Exhibit 8

Exhibit 8 is a map of the Hugoton Field showing the dedicated acreage within the field boundaries as of approximately October, 1947. (T. 186.) The dedicated acreage is shown as cross-hatched. The map contains a legend which identifies, by means of symbols, the project to which particular acreage is dedicated. Subsequent to the preparation of the map, additional acreage was dedicated, but the map was not revised to include this additional acreage

for the hearing. The map was described by the witness, Ransom, as showing that "practically all the Hugoton Field acreage is dedicated to some project." (T. 86-87.)

The map is not reproduced in this counter abstract for the reason that it is substantially identical to Exhibit 16 introduced through the witness, Keplinger, set out herein on page 77. The only substantial difference between Exhibit 16 and Exhibit 8 is the addition on Exhibit 16 of the probable field limits as shown by Keplinger & Wanenmacher as of October 18, 1948, indicated thereon by a heavy colored [fol. 610] line superimposed on the map. The witness Keplinger, referring to Exhibit 16, described the additional acreage dedicated since the preparation of Exhibits 8 and 16. With reference to Exhibit 16, he said that it was apparent from the exhibit that it would not be economically feasible at this time for a number of competing pipelines to obtain sufficient reserves to go ahead with additional construction, and that, for the main, the acreage in the Hugoton Field is already under contract and dedicated for the life of the lease: that is it highly problematical that another pipeline could get sufficient reserves so that the financial structure would be sound. (T. 183-185.)

* * * * * * *

Note

Page 411 is on Card 4

Exhibit 17

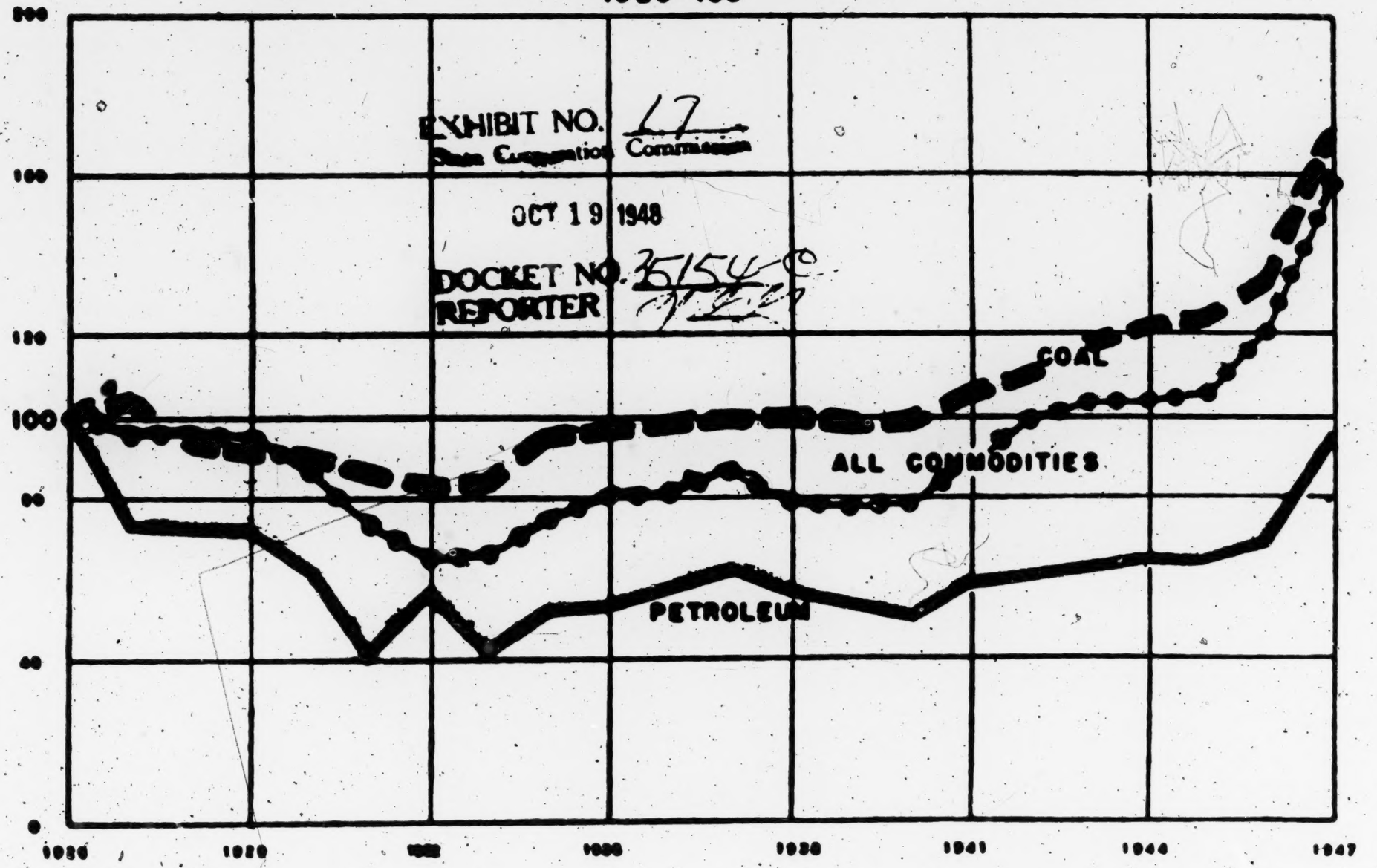
412

[fol. 612]

INDEX OF WHOLESALE COMMODITY PRICES

1926-100

EXHIBIT NO. 17
State Corporation Commission
OCT 19 1948
DOCKET NO. 35154
REPORTER



Note

Page 413 is on Card 4

* * * * * * *

[fol. 620] Abstract of Exhibit 30

Exhibit 30 is a copy of a natu-al gas purchase contract dated February 8, 1940, between the Derby Oil Company, the Trees Oil Company, Howard H. Kuhn and Walter F. Kuhn as sellers and Argus Natural Gas Company, Inc., as buyer.

In Article 1, the sellers agree to sell and deliver to Argus all of the gas produced on described acreage. The buyer agrees to buy the gas subject to its ability to resell to others and its obligations under prior purchase contracts with other sellers of gas.

In Article 2, the buyer agrees to pay the sellers four cents per thousand cubic feet for the gas.

* * * * * * *

[fol. 621] Article 9 defines the term of the contract to be so long as natural gas can be delivered in commercial quantities from any well on the acreage described thereon.

* * * * * * *

Abstract of Exhibit 31

Exhibit 31 is a copy of an agreement for the sale of a gas well known as the Nix Well (T. 402-403) between Walter Kuhn and Howard Kuhn as sellers and Panhandle Eastern Pipe Line Company as buyer.

The agreement describes the sellers as the owners of a lease on described premises on which there is a completed gas well capable of producing gas in commercial quantities and recites that the sellers do not now have a market for the gas from the well and that the pipeline company has a market for large quantities of natural gas. After provisions regarding the sellers' warranty of title to the well and leasehold, the sellers agree to immediately sell to the pipeline company the oil and gas described [fol. 622] together with the completed well and all equipment thereon without "additional consideration" in addition to the ten dollars recited in the contract, receipt of which is therein acknowledged.

The contract then provides that the pipeline company shall be under no obligation whatsoever to produce gas

from the well but "if, as, and when" it produces gas from wells on the lease it will pay to the sellers two cents per thousand cubic foot of such gas provided that such payment shall not exceed the aggregate of $22,990. The contract provides that there shall be no obligation on the part of the company to pay any portion thereof until such portion becomes a fixed and firm obligation after the production of gas.

Abstract of Exhibit 32

Exhibit 32 is a copy of a contract for the sale of the Youngren Well belonging to Walter Kuhn and Howard Kuhn. (T. 402-403.) It is substantially identical to Exhibit 31 with the exception of the description of the leasehold estate and the limitation on payments which in the case of Exhibit 32 is extended to $26,900. As in Exhibit 31, Exhibit 32 specifically recites acknowledgment of the consideration of $10 and states that the sale is made without any additional consideration and that the company is under no obligation whatsoever to produce or take any gas from the well.

* * * * * * *

[fol. 625] Abstract of Exhibit 35

Exhibit 35 is a copy of a natural gas purchase contract between Walter Kuhn as seller and Northern Natural Gas Company as buyer and is substantially identical in form to Exhibits 27 and 30, providing for the sale of gas from three wells owned by the seller, delivery to be made by the seller to the pipeline of the buyer. The price for [fol. 626] gas is four cents per cubic foot, on a 16.4 pressure basis of measurement, for gas per thousand Btu.

* * * * * * *

Abstract of Exhibit 36

Exhibit 36 is a gas purchase contract dated July 20, 1936, between Benedum-Trees Oil Company and the Trees

Oil Company, as sellers, and Panhandle Eastern Pipe Line Company, as buyer, on Panhandle Eastern Pipe Line Company's standard form of gas purchase contract (well delivery) as exemplified by Exhibit 26. The price agreed upon is four cents, less one cent per thousand cubic feet for the payment by the sellers of the labor costs of constructing a gathering line amounting to $12,596.

* * * * * * *

[fol. 633] Abstract of Exhibit 50

Exhibit 50 is a gas purchase contract between W. B. Osborn, seller, and Colorado Interstate Gas Company, buyer, providing for the sale of gas of a minimum Btu content of 925 units per cubic foot, providing a pressure basis of measurement of 16.4 pounds and for the sale of gas during the first five years of the contract beginning August 26, 1947, at six cents per thousand cubic feet with upward adjustment thereafter.

* * * * * * *

[fol. 634] H. Other Natural Gas Purchase Contracts.

Docket No. 35,154-C

In addition to the gas purchase contracts formally introduced in evidence, all of the gas purchase contracts in the Kansas Hugoton field were made available for inspection at the suggestion of the Commission. In order to avoid unduly encumbering the record, they were not formally offered. All of the contracts inspected had provisions substantially identical to those herein abstracted providing that they were subject to present and future orders, rules and regulations of duly constituted authorities having jurisdiction.

[fol. 635] I. Certificate

The foregoing in two volumes is a true and correct counter abstract of the record in the above entitled actions. The amount necessarily paid for printing this abstract in two volumes is $2,470.47, and appellees hereby claim such

amount as costs herein pursuant to the provisions of Rule 18 of this court.

C. C. Linley, General Counsel, New England Building, Topeka, Kansas; Don C. Smith, Special Counsel, Dodge City, Kansas; Howard T. Fleeson, Dale M. Stucky, of Counsel, 901 First National Bank Building, Wichita, Kansas, Attorneys for Appellees.

[fol. 642] IN THE SUPREME COURT OF THE STATE OF KANSAS

(Title omitted)

CROSS-DESIGNATION OF ADDITIONAL PORTIONS OF THE RECORD DESIRED BY APPELLEES TO BE INCLUDED IN TRANSCRIPT ON APPEAL TO THE SUPREME COURT OF THE UNITED STATES

The State Corporation Commission of Kansas, Harry Snyder, Jr., Chairman, Richard C. Byrd and John I. Young, as members of said Commission, appellees above named, do hereby designate, and request the clerk to please include, the following portions of the record in the transcript on appeal, in addition to the portions designated by Cities Service Gas Company in its notice of appeal to the Supreme Court of the United States, served on counsel for appellees on January 18, 1957:

1. Consolidated Counter Abstract of Record, in two printed volumes, Volumes I and II, together with proof of service thereof.

2. Objections of appellant, Cities Service Gas Company, to items of costs of appellees' counter abstract.

3. This cross-designation, together with proof of service thereof.

Charles R. Escola, General Counsel; Harold E. Jones, Assistant General Counsel, State Corporation Commission, New England Building, Topeka, [fol. 643] Kansas; C. C. Linley, State Corporation Commission, 211 North Broadway, Wichita, Kansas; Howard T. Fleeson, Wayne Coulson, Dale M. Stucky, 901 First National Bank Building, Wichita, Kansas, Counsel for State Corporation Commission, et al., Appellees.

s/ By Charles R. Escola, General Counsel, State Corporation Commission of Kansas.

PROOF OF SERVICE

I, the undersigned, Charles R. Escola, General Counsel, State Corporation Commission of the State of Kansas, one of the attorneys for the State Corporation Commission of Kansas, et al., appellees herein, and a member of the bar of the Supreme Court of Kansas, depose and say:

That on the 29th day of January, 1957, I served a true copy of the above and foregoing "Cross-Designation of Additional Portions of the Record Desired by Appellees to Be Included in Transcript on Appeal to the Supreme Court of the United States" on

M. F. Cosgrove, National Bank of Topeka Building, Topeka, Kansas, Counsel of record for Appellant

by delivering the same to him personally; and a true copy thereof on

Conrad C. Mount, O. R. Stites, Joe Rolston, 1063 First National Building, Oklahoma City, Oklahoma, Counsel of record for Appellant.

Mark H. Adams, Wheeler Kelly Hagny Building, Wichita, Kansas, Counsel of record for Appellant

by depositing the same in the United States mail box, first-class postage prepaid, addressed to said counsel of record [fol. 644] for appellant, Cities Service Gas Company, at their post office addresses set forth above.

s/ Charles R. Escola

Subscribed and sworn to before me at Topeka, Shawnee County, Kansas, this 29th day of January, 1957.

s/ May E. Oliver
Notary Public

My commission expires: March 16, 1960

ACKNOWLEDGMENT OF SERVICE

I hereby acknowledge service of the above and foregoing "Cross-Designation of Additional Portions of the Record Desired by Appellees to Be Included in Transcript on Appeal to the Supreme Court of the United States" in the above captioned case, this 29th day of January, 1957.

s/ M. F. Cosgrove

[fol. 645] Clerk's Certificate to foregoing transcript omitted in printing.

[fol. 646] SUPREME COURT OF THE UNITED STATES
No. 797, October Term, 1956

(Title omitted)

APPEAL from the Supreme Court of the State of Kansas.

ORDER NOTING PROBABLE JURISDICTION—May 27, 1957

The statement of jurisdiction in this case having been submitted and considered by the Court, probable jurisdiction is noted.